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DOMINION DENTAL JOURNAL

(Official Organ of all Dental Associations in Canada)

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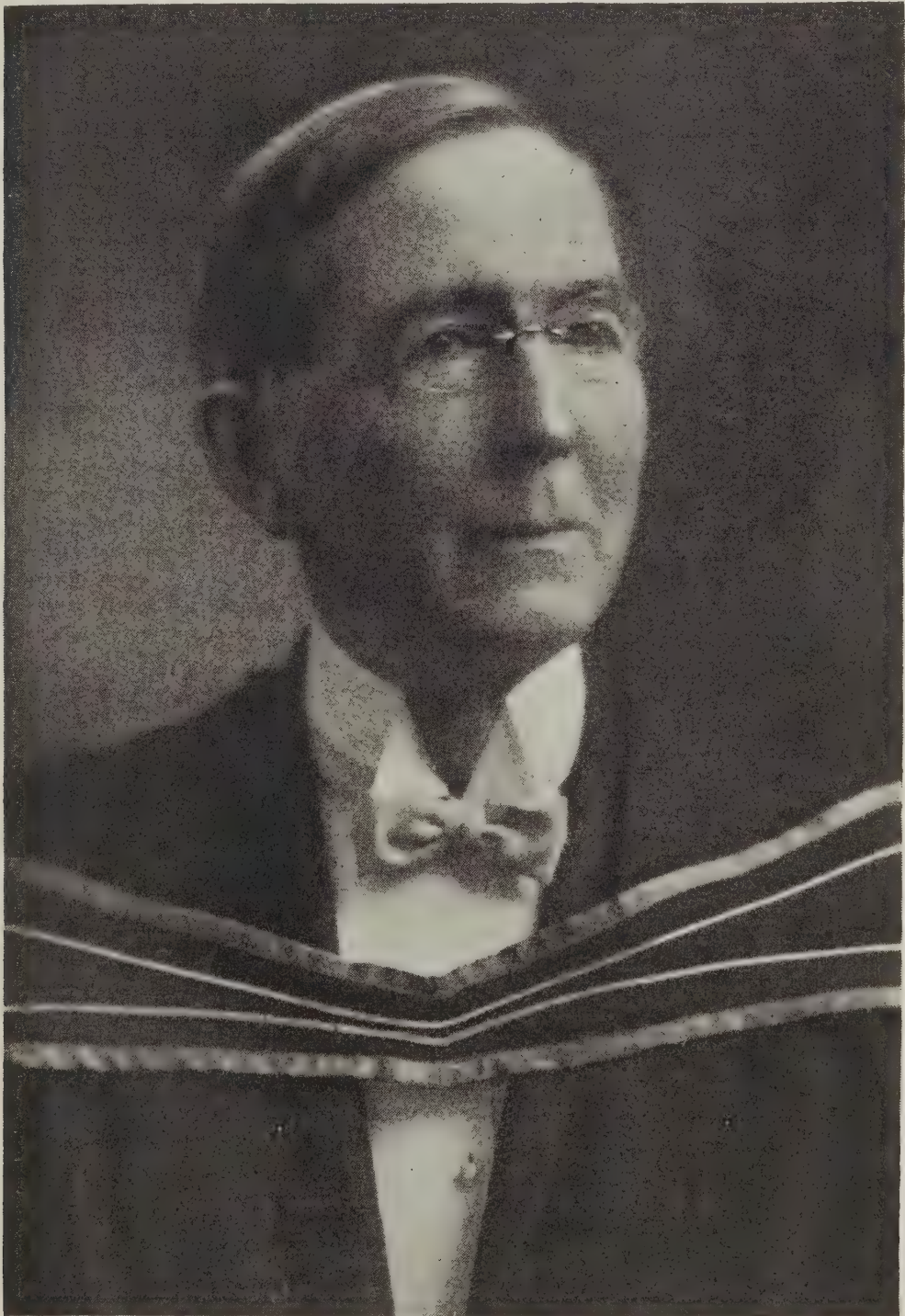
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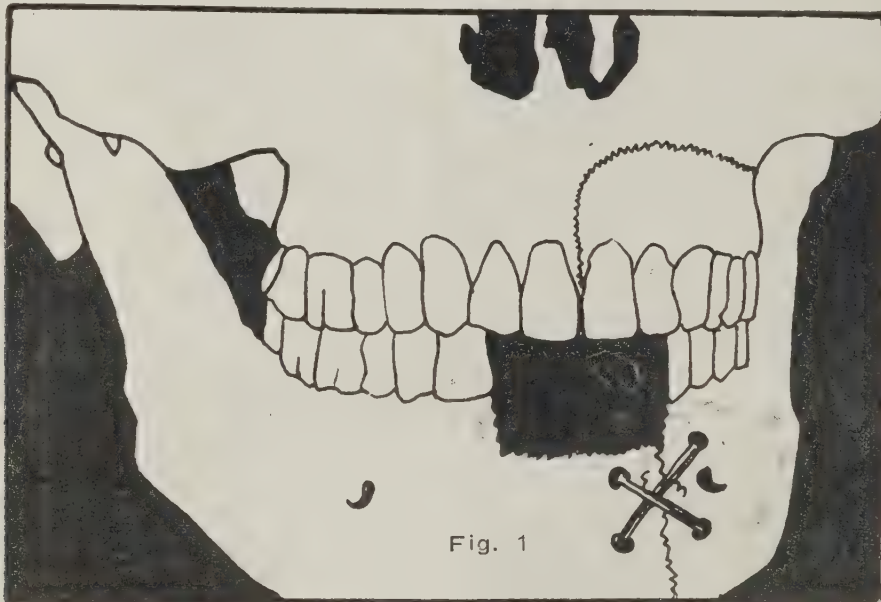


R. G. McLaughlin, D.D.S., L.D.S.

Fracture of Upper and Lower Maxillae Where Simple Ligation of Teeth was not Sufficient to Hold Fragments in Position

C. B. Stover, D.D.S., M.B., Windsor, Ont.

In September, 1925, I was called to see Mr. L. at hospital in semi-conscious condition. On examination we found the following: Fracture of mandible at region of left mental foramen, together with loss of the four incisors and left cuspid, and in addition the alveolar process pertaining thereto (See fig. 1); fracture of superior maxilla, also shown in fig.



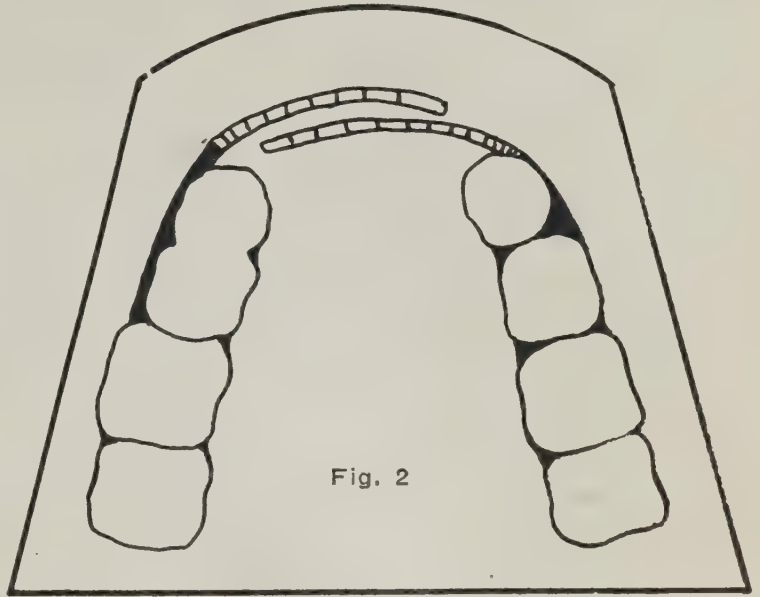
1; fracture and displacement to right of lateral nasal bones, and in addition much swelling and discoloration of soft tissues particularly above the eyes.

In connection with the fracture of the mandible the radiogram showed displacement forward of the left ramus, the end of the left fragment overlapping laterally the end of the right fragment.

As the patient's vitality was very low an attempt was made to reduce the fracture and retain the parts in position by simply ligating the opposing teeth together. However it soon became evident that this would not suffice and that not only would splints have to be made but that in addition the two fragments of the lower jaw should be wired together. On the next day, therefore, two impressions were taken, one for each fragment, and taken to include all the remaining teeth in the fragment. From these impressions silver metal jackets or splints were made. Attached to the anterior end of each of these was a corrugated wire, so arranged that when the splints were in position one would overlap its fellow of the opposite side. * (See fig. 2). On the following day patient was given a general anaesthetic, the area over the fracture was cleansed and made aseptic, and an incision was made just under the border of the mandible and extending about 2

*This form of splint was first described by Hayes in an early Cosmos number.

cms. on either side of the line of fracture. The soft tissues were then raised both from the outer and inner surface of the bone, endeavoring to leave the periosteum undisturbed. Two holes were then drilled in each fragment and silver wire, gauge No. 22, inserted in such a manner that one suture crossed the other (See fig. 1). We thought the double wire suture would not only give more strength, but we were thus better able to keep well away from the mental foramen which was in left segment and very close to the line of fracture. While drilling the holes the bone was



held by assistant with ordinary tooth forceps, while a flat tongue depressor held beneath the bone prevented the drill from plunging into the soft tissues. After reducing the fracture and applying the silver wire suture the wound in the soft tissue was closed with dermal suture and a small drainage tube was left in place. At this time the metal splints were also cemented to place and the corrugated wire extensions bound together by being wound with ordinary orthodontia wire. To secure the fragment in the upper jaw the two centrals were ligated firmly together, the ligating wire passing around at the gum margin.

Four or five hours later after all signs of nausea from the anaesthetic had passed the lower jaw with splints covering the teeth was made to occlude as well as possible with the upper and was secured in place by stout bandages plain and four-tailed passing under the jaw and over the vertex.

From loss of anterior teeth and bony tissue there was provided a ready means of feeding, and irrigating, which latter was insisted upon directly following the taking of any nourishment whatever. As soon as fractures were thus held firmly in place patient began to get much needed rest and went on to slow but uninterrupted recovery.

In six weeks' time the wire ligatures uniting the fractured ends of the mandible were easily removed, and at the same time the small wire between the two upper centrals was also removed. However we thought it advisable to leave the metal splints on longer because of the loss of bony tissue and the possible resulting weakness, so these were left in place for a further two weeks.

The scar from the incision made in the soft tissue does not show because of its position. Patient is now eating as usual and experiences no stiffness of jaw movement or loss of function in any way. As for the articulation which before accident was evidently not a good one, the patient thinks it is now much improved. Our next endeavor will be to restore the five missing teeth and the lost alveolar tissue, and finally to correct the nasal disfigurement, neither of which we think will give any special difficulty.

Dental Diagnosis

A. E. WEBSTER, L.D.S., M.D.S., M.D., F.A.C.D.

Read before the Kingston Dental and Medical Societies

In the diagnosis of disease about the jaws, a primary consideration must be kept in mind, viz., is the pathological condition of local or general origin? Are the constitutional symptoms present, from the oral disease or only associated with it. The discovery of some pathological state of the gum margins or the alveolar process of the jaw is not sufficient evidence in itself to conclude that the patient's health is suffering therefrom. It must be admitted that bodily ill-health may have its origin in oral disease, but care must be exercised in determining which, if any, of the symptoms have their origin in a disease of the mouth.

The majority of remote affections which proceed from diseases of the jaws and mouth belong to the category of chronic septic infections which are commonly of streptococcal invasion which are frequently found in infections of the sinuses of the face and head, the tonsil, the gall bladder, the intestines and the genito-urinal tract. Oral sepsis may exist coincidental with any of these diseases and may act as a predisposing and aggravating or exciting cause. It must be borne in mind that many general diseases have distinct manifestations in the mouth.

Unfortunately for dentistry and those seeking the services of dentists, there has not yet been developed any acceptable systematic procedure in making a dental diagnosis. Dentists have in the past been able to determine by observation all that was needed for treatment. If a tooth pained, it could be removed, and if a cavity occurred in a tooth, it could be filled, and if a space appeared from the loss of one or more teeth, the space could be occupied by an artificial appliance. But since the advent of a more careful study of the prevention of dental diseases and the relationship existing between local infections and general diseases, it becomes more important to determine what teeth are diseased and what remote affections may have their origin in the mouth and, on the other hand, what affections in the mouth may have their origin elsewhere.

The dentist has two distinct problems before him in making a diagnosis. The local findings and the general manifestations of disease. These require different methods of approach, treatment and record. There is no very distinct advantage in having a general history and medical record of a patient who requires an amalgam filling or a denture. What such an examination would reveal would rarely change the method of treatment. If it could be shown that dental caries and diseases of the periodontal membrane were systemic in origin and might in such case be amenable to general treatment, then a general history would be desirable in all cases. On the other hand, if a patient is suffering from some general disease which may have its origin in the mouth or may cause a mouth affection, then a general medical examination must be made. The extent of the examination and the accuracy of the record of the findings should be determined by the necessities in each case.

Patients who require a complete medical examination should have a complete dental examination as well. Such patients may first consult the dentist or the physician, but, in any case, the dentist must report his findings to the physician and the physician must report his findings to the dentist, or better still, after each has made his examination there might be a consultation in the presence of the patient. It is generally unwise for a dentist to give a patient instructions to consult a physician about his general health, or for a physician to give him instruction to consult a dentist, because most people who carry messages fail to give a correct impression of what was wanted. Too often both physicians and dentists are inclined to give the other instructions about their own affairs. They over-reach themselves. The patient should carry with him a note explaining what he suffers from and what the dentist should examine for. And, on the other hand, the patient should take with him from the dentist what was suspected and what he especially wanted examined into. A telephone communication between the physician and dentist is often of distinct advantage to the patient. In the interests of the patient the physician must know enough about the mouth and teeth to say whether they are in normal health or not, and the dentist must know enough about general diseases that may have their origin in the mouth to recognize the need for sending them for careful examination. When dentists begin to play at medicine and physicians begin to play at dentistry, patients suffer.

Before touching on the details of making a dental examination, permit me to speak of a few generalities arrived at after some years of clinical experience and practise. First of all, the consultant must get a clear idea from the patient, his guardian or friends, of the reason for the visit. Why has he consulted the dentist or physician? What does he want and what does he expect? This is the beginning, the middle and the end, never to be forgotten. Often the consultant forgets this, but the patient rarely does. How often a patient consults a dentist to have a filling inserted in a front tooth and the dentist thinks he has persuaded him that it is more important to have a posterior tooth attended first and dismisses him to have the work done another day, but he never comes back. I have heard splendid advice given to deaf ears. Every physician has given good advice, but it was not always heeded because it was too far beyond the conception of the patient. One should begin where the patient is and lead him as rapidly as he will go to where one wants him.

There are two general methods of weighing evidence in making a diagnosis. One is to listen to all the history and directly come to a conclusion, and the other is to think of all the diseases it might possibly be and then arrive at the most likely one by a process of exclusion, afterwards definitely substantiate it.

Generally speaking, it is well to let a patient tell his story, which will help to throw some light on his mental processes as well as his complaint. At a certain point a few pertinent questions may clear away some ambiguity and serve to give direction to the patient's story. All the while, very acute observations are being made as to the patient's posture, muscular movements and actions of the eyes, mouth and hands. The consultant is to think broadly of the significance of each part of the story, avoiding any positive conclusions until such objective symptoms are made out that give a lead to a few questions. Questions which lead to an answer of yes or no indicate a direction of possible discovery of the diagnosis.

Many patients are often quite as keen as the consultant in matters of attention, logic and deduction, so it becomes important to avoid asking the same question more than once, and especially not to ask the patient's name or address two or three times. Blunt and embarrassing questions, or questions the answers to which are obvious, often put the patient's mind in opposition. Instead of gaining in his confidence by devining what he alone thought he knew, the consultant loses by asking aimless irrelevant and stupid questions. Questions which indicate that the consultant can foretell what the patient's symptoms were, have a wonderful effect on his mind. When a confidential relationship has been established, there is less likelihood of the patient withholding information that is sometimes essential to a diagnosis. If a truthful answer is not forthcoming from a patient, it is far better not to have asked the question. "Lead us not into temptation."

It is often difficult to determine just why some patients consult a physician or dentist. They come with a diagnosis of their own and a full set of symptoms to corroborate their diagnosis. Before the consultation is over, the consultant is subjected to a line of questioning and suggestion of treatment which is embarrassing. No good ever comes to such patients because they really want to make their own diagnosis, prescribe their own treatment and get the physician's concurrence. The consultant must direct the consultation and control the treatment or have nothing to do with the case. Any other course leads nowhere except to humiliation and disappointment. Such patients have the consultation "craze, doctoritis or hospitalitis," if you please.

Sometimes patients will go the rounds to find if someone will help them in their belief that they have been maltreated. The specialist has much of this to contend with, so he must be on guard at all times, to say little about former treatments and show interest only in present complaints.

The experienced diagnostician is exceedingly cautious in expressing views or giving his opinions or predictions. Experience has taught him that things are not always as they seem at first sight. The less the untrained mind knows about a subject, the more positive it is in its opinions. Only the youthful and the inexperienced are really positive about anything. e.g.: over ten years ago a rather youthful consultant made a positive diagnosis of carcinoma of the Antrum of Highmore. The patient still lives without any signs of the disease to-day. It was heartless to tell such a patient that he had a cancer, if it were true, and still worse to have him worried for months when it was not true. It should be the consultant's business to allay suspicion and promote happiness among his patients.

As previously indicated it is the essayist's opinion that a medical examination is not necessary for ordinary dental operations. In the great majority of cases a dental examination is all that is necessary, as usually in consulting the physician, a medical examination fills every requirement. But, of course, there are a number consulting both dentists and physicians who need both examinations or a complete examination.

A routine dental examination involves: name, age, sex, family and personal dental history, present complaint or requirements.

FILLING OUT A DENTAL CHART SHOWING OPERATIONS REQUIRED

Equipment for Routine Dental Examination—Chair, cabinet, bracket table, sterilizer, wet and dry, compressed air, hand mirror, faradic current

or electric pulp tester, electric mouth lamp, transillumination, X-ray machine, hot and cold water, ice or ethyl chloride, gutta percha cone, percussion instrument.

Instruments—Mouth mirror, tongue depressor, explorers, probes for following sinuses, water syringe, floss silk, separator, gas flame.

Examination of the Patient—General impressions, age, sex, general intelligence, occupation, personal care and general care of health.

Mouth—Deformities, traumatisms, abnormalities, size, elasticity of tissues, general physiological or pathological state.

Mucous Membrane—General color, uniformity, reactions to irritants, swellings, growths, foreign bodies, sinuses.

Saliva—Viscid, simped, abundant, scanty.

Teeth—General appearance of color, size, form, number present, number lost, non erupted or suppressed, irregularities, breathing, care of teeth, power of mastication, occlusion, amount of dentistry done and the success of it, fillings, crowns, bridges, dentures, abrasions, erosions, attrition.

Cavities of decay—Have some uniform plan.

1. All surfaces of each tooth beginning at the upper right, third molar.
2. Same surface of each tooth beginning at the upper right third molar for each surface.

Note size, color and location of cavities, vitality or non-vitality of dental pulps.

Periodontal Tissues—Loose or tight teeth, sore and inflamed gingivae or interstitial inflammation, swellings over apical region, sinuses.

Local Irritants—Deposits, fillings, crowns, bridges, dentures, food wedging, tooth picks, tooth brushes, orthodontia bands, drugs.

General Irritants—Pregnancy, syphilis, diabetes, Bright's, diet, trench mouth, arsenic lead, potassium iodid, phosphorus, gonorrhea.

It is the combined examination and diagnosis which must be made by collaboration and consultation between the dentist and the physician that we wish to present just now. Where the work of the two professions joins hands in the patient's interest. Too often in the past the dentist didn't know that the diseases he was dealing with from day to day might be the cause of grave systemic affections and the physicians didn't know that the mouth and teeth were the seat of strepto-coccal and other infections. When the two professions came together to study focal infections, there was a marked change in both medical and dental practice. The history of the change of methods of practice is interesting. Dentists knew for years that infections of the teeth influenced the general health in many cases, the medical profession was slow to accept, but when Hunter made his notable observations public, both professions vied with each other in recommending the extraction of teeth until it has become a professional disgrace. Almost every disease from alopecia to house-maid's knee has been attributed to bad teeth. Teeth should not be removed on suspicion only; they should be known to be the cause of some malady before they are removed. The extraction of teeth on suspicion should be a thing of the past.

Modern methods of diagnosis rather discount the methods of the past. The art of taking a complete and relevant history, and making accurate observations have not been developed in recent years because of the application of so many mechanical devices for helping in making a

diagnosis. It is too often forgotten that it takes brains in the final analysis to interpret the findings of diagnostic appliances. By the history alone many dental complaints can be diagnosed. Inspection, palpitation and percussion all add their quota of facts. The dental diagnostician will look for deformities, traumatism, infections of the pulp, the periodontal membrane, the bones of the jaws and the soft tissues of the mouth.

Following the taking of the dental history and sometimes accompanying it is made an inspection of the mouth and teeth. By palpation with the ball of the index finger, the regularity or otherwise of the foundational bony structure can be made out. Heavy pressure over diseased apices will often elicit expressions of pain. A milking pressure from apex to gingivae, especially between the teeth, will express pus or blood, the quantity of which will give a rather definite notion of the depth of the pockets around the tooth root. Finger pressure in a direct line with the long axes of the tooth which causes pain, indicates apical disturbance, while pressure laterally indicates disturbance on the opposite side of the tooth, e.g., if pressure on the buccal side of an upper molar causes pain, it is an indication of irrelation of the lingual root. Percussion of the teeth is done for two reasons: first, to elicit pain from the shock of the blow to the tooth, or, to determine if the note sounded by the blow is dull or ringing in character. If the note is dull, the tooth is diseased; if ringing, it is normal. The writer's experience is that blows upon a sore tooth which are heavy enough to produce such sounds are too heavy for the patient's comfort.

The dentist in his regular practise has to deal with diseases and affections of the hard structures of the teeth, the dental pulp, the periodontal membrane, its contiguous tissues, the soft tissues of the mouth, and the remote or focal infections of dental origin, as well as affections of systemic origin, having local mouth manifestations. None of these can be separated from the general functions of the body, nor can any marked derangement of one or more of them exist without influencing, in some manner, all others. Hence what sometimes seems to be a simple local affection is in reality having marked general or systemic manifestations. For this reason physicians send patients to dentists to find out if there is anything amiss in the mouth which might be the cause of the systemic or contiguous affection. The most common conditions suspected to be of tooth origin are enlarged glands about the neck. Acute inflammatory swellings about the jaws and face, marked eye symptoms, epileptiform seizures, chorea, certain mental disturbances, rheumatism, anaemias, hypertention, heart affections, alimentary infections, cancer, neuralgias. These and all other disturbances of dental origin can be classified into direct nerve irritations and acute and chronic infections.

Direct nerve irritations are exemplified in traumatism of the nerves of the teeth and infectious irritations. These are chiefly found in vital pulps and impacted teeth.

The other group are found at the root ends of teeth whose pulps have died and become infected. These infections are practically always streptococcal and the source of systemic disease. The local gingival infections are less likely to cause systemic disease and yet Hunter believes pernicious anaemia comes from an unclean mouth.

There is a general belief that teeth with vital pulps cannot be the origin of infections. Based upon this view it becomes of prime importance

to determine whether a pulp is alive or dead. To the inexperienced this seems to be a simple routine, and yet in a few cases the symptoms are very perplexing. There is such a wide range of sensations or lack of sensations within the normal, that many of the apparatuses for testing pulps do not give constant results.

The condition of the pulp may be determined by:

1. Family history.
2. Personal history.
3. Dental history—shock, blows, pains, swellings, sinuses, operation.
4. Age and sex.
5. Pain. When it occurs, duration, character of location, subconscious.
6. Color.
7. Reaction to thermal changes.
8. Number and size of fillings. Crowns.
9. Reaction to electric current.
10. Sensation to cutting dentine.
11. The presence of a root canal filling as determined by an X-ray picture.

The condition of the periodontal may be determined by:

1. Family history.
2. Personal history.
3. Dental history.
4. Age and sex.
5. Vitality or non-vitality of the pulp.
6. Power of mastication.
7. Color of the teeth.
8. Reaction of the tissues to injury.
9. Normal or malocclusion.
12. Length of time the pulp is dead.
13. At what age the pulp died.
14. If the tooth has been the seat of acute inflammatory attacks.
15. The state of the overlying soft tissues.
16. Inflammatory enlargements of bone over root apices.
17. The amount of periodontal attachment remaining.
18. State of the tissues as revealed by X-ray photographs.

A Memory

Moonlight in June, under the new-leaved trees
 Stirred by the gentle air, a small, white tent;
 Below, the silver-ribboned river flows,
 Through sheen and shadow, wonderfully blent.

Cedar and birch, wild cherry and tall pine
 Distil a faint, sweet fragrance, breath of Spring
 Deep-laden with the essence of Desire
 That thrills the soul of every living thing.

So sweet the hour no tongue of mine can tell
 And silent is the vigil of the moon;
 A small, white tent beside the silver stream,
 A misty-moonlit evening in June.

—Mark G. McIlhenny.

Dermatitis Produced by Local Anaesthetic Solutions

Local anaesthetic dermatitis (sometimes called "procaine dermatitis" or "novocaine poisoning") apparently is a condition of personal idiosyncrasy and is similar to the dermatitis produced by certain photographic and other chemicals. There is not a great deal of it, comparatively, since thousands of dentists using local anaesthetics are never troubled, but once established it is an exceedingly stubborn condition. In some cases there may be an already existing susceptibility. On the other hand, the dentist may use his favorite anaesthetic for years without any trouble, but suddenly have a dermatitis develop without any apparent change in conditions. Lowered resistance possibly is a predisposing factor.

It usually first manifests itself as a scaly or roughened condition about the tips of the fingers or between them. Later the skin becomes much thickened and frequently cracks, exposing a raw tender surface. It spreads gradually and may be transferred from the hands to other parts of the body. It is occasionally seen along the lower edge of the hair on the neck. The affected spots become itchy and sore and through exposure of the sub-dermal tissues may bleed and become infected.

The condition seems to be caused by local anaesthetics of the synthetic group, since cocaine (a plant derivative) apparently does not cause dermatitis. Procaine appears to be the chief trouble-maker in this respect. In quite a number of cases dentists who had dermatitis from one anaesthetic have been relieved by changing to another. A number of cases have been reported where dermatitis caused by procaine has disappeared when the dentist changed to the exclusive use of butyn. In other cases, however, no such relief resulted. In several cases, butyn is reported to have produced a dermatitis. Some have felt that possibly epinephrin (adrenalin) might be the cause, but this is doubtful since solutions of cocaine and epinephrin apparently do not cause dermatitis. Since nearly all the synthetic local anaesthetics possess an analogous chemical structure, it may be that there is some common molecule in the group that produces the trouble.

In treating such a dermatitis there are two important considerations. The first and most important is to adopt a technic which will prevent the anaesthetic solution from coming in contact with the skin. The second is to apply to the affected areas some bland, non-irritating, healing ointment or lotion.

Jenkins (Dental Cosmos, Sept., 1921) reports satisfactory results from use of an ointment prepared by mixing equal parts of flowers of sulphur and white vaseline.

Hamilton (Dental Cosmos, October, 1921) recommends 20 grains of salicylic acid to an ounce of alcohol followed at night by a light coating of vaseline.

Kirby (Dental Cosmos, March, 1922) recommends equal parts of Bismuth and corn starch dusted into a cotton glove and kept on the hands during the night.

Gansuer (Dental Cosmos, March, 1922) recommends Salicylic acid 10 per cent. with Benzoic acid 4 per cent.

Gaskill (Dental Cosmos, March, 1922) recommends 25 per cent. lanolin and 75 per cent. petrolatum, to which is added 2 per cent. carbolic acid.

Dr. Stanley W. Clark, of Chicago, reports satisfactory results with the following treatment: Sheep Dip R.: Unslaked lime, $\frac{1}{4}$ oz.; flowers of sulphur, $\frac{1}{2}$ oz.; water, 1 pint. Boil unslaked lime and sulphur for three hours. Stir well every 15 minutes, adding water to make 1 pint of solution when complete.

Use this sheep dip as a wash. Paint parts thoroughly twice daily for four days. Itching and burning sensation usually disappears after first or second day. While using sheep dip use no grease or paste—nothing but the dip. At the end of the fourth day discontinue the use of sheep dip and apply Lasser's Paste.

Lasser's Paste R.: Acid Salicylic, 8 gr.; Zinc Oxide, 96 gr.; Starch, 96 gr.; Petrolatum, 200 gr.

Greenwood and Quest, in the Journal of the American Medical Association for October 4, 1924, report success in a case of Butyn dermatitis with the following prescription: Zinc oxide, 8 gr.; calamine, 4 gr.; glycerine, 4 cc.; carbolic acid, 2 gr.; water to make 250 cc.

It is necessary, during the treatment (and at all times, if one is susceptible) to adopt a technic which will prevent the solution from coming into contact with the skin. This means that the dentist should use either ampules, carpules, or a safety container, such as Abbott's 100 cc. bulk container; or, if the solutions are prepared from the tablets, either let the assistant prepare the solutions and fill the syringe, or do it in such a manner that the hands do not come in contact with tablets or solution at any time.

The syringe used should be leakproof. The operator must wear rubber gloves while making the injection, and preferably also while making the extraction, because sometimes the local anaesthetic solution will seep out of the tissues during the extraction and come in contact with the skin.

The gloves should be carefully washed after use and rinsed inside and outside in dilute alcohol solution.

In expelling the air from the syringe do it in such a way that the solution will not leak or spray into the hands, face, instrument tray, or cabinet. Cases have been known where dermatitis has been produced by the dentist getting onto his fingers minute quantities of the anaesthetic which had been dried on the office equipment.

This is offered in the hope that the suggestion may prove helpful to anyone afflicted with this condition. Any additional information with reference to satisfactory remedies which may be brought to our attention will be included in future issues of this paper. Further suggestions will be welcome; we will be pleased to act as a clearing house for information on this subject, hoping thereby to be of definite service to the dental profession.

THE ABBOTT LABORATORIES.

Department of Dental Research.

SOCIETIES

Canadian Dental Association

A New Year greeting card has been mailed to every registered dentist in Canada. Thanks to the co-operation of the Registrars of the different provinces our mailing list is as nearly correct as it is possible to get it. If you have not received a card, therefore, we will appreciate notice to that effect so that you may be added to our list.

We feel that there are many who are planning to make the trip next summer, whether they come by rail or motor, a vacation trip as well. We have therefore obtained from the Publicity Bureaus of the three Maritime provinces a number of booklets which will give full information on auto routes, vacation hotels, fishing, scenery, etc. These will be gladly forwarded to you, on request. The following are available: "Nova Scotia Road Conditions and Highway Markings," "Historic Nova Scotia," "Nova Scotia By-the-Sea," "Summer Hotels of Nova Scotia," "Highways You Should Know, N.S.," "New Brunswick," "Map of Principal Roads of the Maritimes," "The Garden of the Gulf" and "Prince Edward Island, Canada's Cozy Corner."

Halifax Hotels—The following hotels are all within easy distance of the convention buildings: Carleton (American plan), \$4.00 to \$5.50 per day; Halifax (American plan), \$5.50 per day, with bath attached, \$6.50 per day; Queen (American plan) \$5.00 per day, with private bath, \$6.00 per day.

It is recommended that you make your reservations very soon. While Halifax has not the large surplus hotel accommodation of larger centres there is ample available to take care of a very large convention, but we would ask your co-operation by making your reservations very early.

Next month we will be able to give on this page a preliminary notice on programme. In the meantime we are still waiting to hear what you want particularly to see. Will you, by your co-operation, help us to make this a memorable convention.

J. STANLEY BAGNALL,
Sec.-Treas., Canadian Dental Assn.

34 Larch St., Halifax.

Thanks for your much appreciated co-operation.—J.B.

A regular meeting of the Mount Royal Dental Society was held at the Mount Royal Hotel, Montreal, on the 15th of October.

Dr. J. S. Dohen being the lecturer, having for his subject "Dental Office Management and Economics. He warned the young practitioners against the get rich quick method of investment, saying that the dentists and physicians are the best suckers for the brokers. He outlined the methods in which he conducts the economics part of his office, from which many valuable suggestions were gained by his audience. After a hearty vote of thanks was passed, the meeting adjourned at 11 p.m.

A regular meeting of the Mount Royal Dental Society was held Thursday, November 26th, at the Mount Royal Hotel. An excellent table clinic, Full Denture Construction, was given by Dr. F. Mendel and Dr. N. Titleman. They had many impression models.

Dr. Titleman demonstrated with models the all compound technic for impressions without any metal trays. Dr. Mendel followed by demonstrating how to take the centric occlusion, how to obtain the rest space, mounting on the Hanau articulator and setting up of teeth. Dr. Titleman also demonstrated the use of Twenty Century Snow Articulator, being an adaptable articulator. He also showed how to tin foil and pack. Then Dr. Mendel demonstrated how to grind in the dentures after convanization.

The president then announced that Dr. Mendel will carry through a practical case of full denture at his office for the benefit of the members.

After a vote of appreciation to the clinicians the meeting was adjourned at 11 p.m.

I. N. PESNER, D.D.S., Secretary,
5175 Park Avenue.

The fifty-seventh annual meeting of the Kentucky State Dental will be held in Louisville, Ky., April 5-6-7, 1925, at the Seelbach Hotel. W. M. Randall, Secretary, 1255-2nd St., Louisville, Ky.

Dental Services Arranged by Three School Sections Near Toronto

Commencing on January 2, pupils of the schools of the Runnymede, Lambton Park and Humbercrest sections will be afforded a dental service, according to arrangements made last night at a meeting in Humbercrest School of the special committee, comprising members of the three school boards. Dr. M. A. McLeod, of Runnymede, was placed in charge of the service, and it was decided to hold the clinic in King George School, Runnymede, which is headquarters for the school nurse of the three sections. James Dempster, chairman of the committee, presided.

New Dental Clinic

The provision of dental services, similar to those in the Toronto city schools, for the pupils of Runnymede, Lambton Park and Humbercrest sections was arranged at a meeting of the special committee appointed by the three school boards involved. James Dempster was chairman of the committee, which convened at Humbercrest school and decided that the new service would be started on January 2. Dr. M. A. McLeod was placed in charge of the service and decision was made to establish the clinic at the King George school, Runnymede, as that is the headquarters of the school nurse who looks after all three sections.

Report of Committee on Foreign Relations, Canadian Dental Association

Secretary's Note.—This report did not reach the office until after I had left for Vancouver and consequently was not presented to the meeting, and the contents have not been acted upon. Inasmuch as it seems a matter of importance and interest to the profession, it is included in these proceedings.—E. A. C.

This report is in the nature of a statement of the position of Canada in relation to other countries and a suggestion for the future.

International dental relations in Canada are in the same uncertain and complex position as many other international matters. Countries outside of Great Britain and even those within the Empire are not very certain as to the exact position of Canada in relation to Great Britain and other countries. This is exemplified in the representation at the Peace Conference and the League of Nations and now as to the appointment of a plenipotentiary at Washington. If in such matters the position of Canada is not clear, there is excuse for the uncertain relations in Dentistry. The Federation Dentaire Internationale is not sure whether it should accept representatives from Canada directly or through Dental organizations in Great Britain. Of recent years, direct relations have been instituted without any corresponding response from Canada. Canadians attending such international meetings have paid their country's dues and often carried no authority from the Canadian Dental Association, but carried authority from provinces and local bodies. While this situation exists in our nationhood our kind and good friends to the south of us, with their usual generosity, have practically accepted Canadians into membership in the American Dental Association, thus for international purposes suggesting, at all events, that as a nation Canada does not exist, but is a part of the United States. Internationally, dentistry in Canada has not passed the Colonial stage, while politically, she stands as one of the Nations of the World.

Your committee's chairman would suggest (a) that the Council appoint representatives to the Federation Dentaire Internationale meetings and the secretary and president; (b) be empowered to prepare such documents and credentials as will assure acceptance, so that Canada may never be unrepresented; (c) that application be made to the Dominion Government to send official representatives to all International Dental Congresses; (d) that representatives be selected at the proper time to attend the Congress in 1926; (e) that Canada pay her share per Dental capita for all International Dental affairs.

Canada, as the oldest officially recognized dentally organized country in the world, is hiding her light under a bushel by provincialism. She has politically reached nationhood. Dentally she should take her place among other nations.

The Masson Dental Company of Montreal has been fined \$200 for a violation of the Quebec Dental Act.

Golf Tournament

The Canadian Dental Association held their Golf Tournament on Friday, August 8th, 1924, at the Vancouver Golf and Country Club. About seventy-five members competed and the Ladies' Competition was held on the same day at the Shaughnessy Golf Club; some twenty-five ladies competed.

The members were divided into two flights, namely, 1st, those with handicaps of 20 and under. This competition was won by Dr. R. Mel. Bagnall with a net score for 36 holes of 132, or a gross score of 164. Drs. Oliver Leslie and Frank Quinn tied for second with a net 134. Dr. Leslie had the best gross score of the meet, with 156 strokes.

The second flight was won by that Grand Old Man from Victoria, Dr. A. J. Garesche, with a net score of 132, or a gross score of 176. Dr. Elwood Cox was second and Dr. H. Wood third. Dr. Frank Hergert, of Seattle, won the booby.

Mrs. Mel Bagnall kept the family ahead by winning the Ladies' prize, with Mrs. Cox second.

The Association wishes to thank the donators for the beautiful prizes they gave, as follows: Ash-Temple, Club Bag (Hand); the L. D. Caulk Company, Jaeger Sweater. These were donated for the first flight. The S. S. White Company, a cup; the British Columbia Dental Association, a sweater. These went to the winners of the second flight. The "booby" prize was a part of an old-fashioned toilet set. The Pepsodent and Phillips' Companies donated the prizes for the ladies.

The Tournament was followed by a fine banquet, Dr. W. J. Bruce, toastmaster. Everybody enjoyed themselves with the abundance of good eats and drinks. All agreed the day was a merry one after the previous days of learning.

J. S. BRICKER.

Eastern Ontario Dental Association

The Eastern Ontario Dental Association held its 48th Annual Convention at Stanley Island, Cornwall, on June 24th, 25th and 26th.

The society, the oldest in Ontario, has as its avowed object, as incorporated in its constitution, ". . . . to cultivate the science and art of Dentistry and to promote among its members social intercourse and good fellowship."

It does not make great pretences, but attempts to present able essayists on pertinent subjects, and to generally mix with the scientific and technical, sufficient opportunity for sociability and good-fellowship, for relaxation. It should not in any sense be considered, by its constituents, as a competitor of other societies; it has its own function, that of cementing good-fellowship among the dentists of district No. 1.

It is our annual "get together" "powwow", the "Old Home Week" of the territory from Kingston and Pembroke east to the Quebec border.

The writer knows of no influence in his professional life which so engenders a love of his fellow practitioner, as the E.O.D.A.. To see the cordiality with which old timers meet, (old timers in practice, not in years),

and to listen to their conversation, makes one think at times of a visit to Grandfather's, when former days were recalled by our elders.

One cannot attempt even a brief description of this meeting without a word of appreciation for the Cornwall members whose arrangements for the ladies and our meetings were so excellent. Nor can one say too much in commendation of the Hotel Algonquin and its ideal host, Mr. J. R. Duquette. A splendid hotel on a charming island, where every summer sport can be indulged; the one thing left to be desired is fine weather.

The weather man was particularly ill to us on Thursday and Friday mornings, but the "silver lining" in this case was the removal of the temptation to the golf fiends to forsake the papers for the links.

An enjoyable occasion was the presentation of life memberships in the Association and illuminated addresses of appreciation, to Dr. R. E. Sparks, of Kingston, the only surviving charter member (he never misses a meeting), and to Dr. W. Davy, of Morrisburg, the only surviving former District representative, and to Dr. S. S. Davidson, of Ottawa, the present member of the Board of Governors of the R. C. D. S. from District No. 1.

Another pleasant feature was the presence of Dr. W. J. Bell, Deputy Minister of Health for Ontario; Dean Seccombe, of the R. C. D. S.; Dr. F. J. Conboy, Director of Dental Services in the Ministry of Health; Dr. Eudore Dubeau, Dean of the Faculty of Dentistry in the University of Montreal, recently made a member of the Legion of Honor by the Government of France; and three of his staff, Drs. Pinard, Côté and Malo. All of these men were made honorary members of the Association.

Dr. Seccombe, on behalf of the Dental Profession, thanked Dr. W. J. Bell, Deputy Minister of Health for his interest in Dentistry, and the president in presenting Dr. Bell with honorary membership, thanked him for his presence and his paper on "Public Health."

We appreciated Dean Seccombe's lucid explanation of the proposed arrangements regarding the teaching of dentistry by the University of Toronto.

A banquet was given by the Cornwall dentists on Thursday evening, after which the visitors were welcomed on behalf of the mayor, by ex-mayor John Chisholm who, being Scotch, gave us an excellent talk on "Glengarry." Dr. A. A. Smith, chairman of the local committee presided, and appropriate speeches were made by Dean Seccombe, Dr. Conboy, Dr. Sparks, and the President Dr. H. Winters. We imagine that "appropriate remarks" were made by Dr. Larry Martin as he tried to carve a roast young pig which he and his table thought they'd rather have than turkey.

After the banquet a concert was held in the ball room, which revealed considerable talent among the wives and members of the profession. This was followed by a dance.

On Friday afternoon a golf tournament was held, three cups were presented by the Cornwall dentists, the winners being:

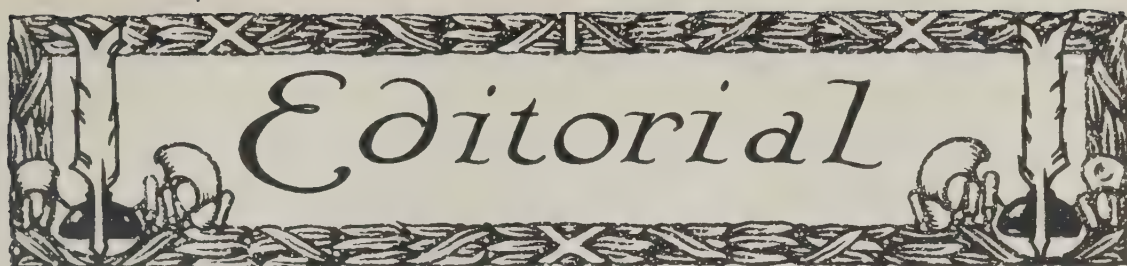
The cup for the best gross score—Dr. Palmer Beattie, Ottawa.

The other two cups were won by Dr. M. J. Mulvihill, Pembroke, and Dr. Jack Phillips, Cornwall.

The surroundings are so splendid and the Cornwall dentists such excellent hosts, that we're going back for our 49th meeting, the last week of June, 1926.

The semi-centennial meeting in 1927 is to be made a special jubilee meeting to be held in Ottawa.

S. G. McCAUGHEY, *Sec.-Treas.*



Editorial

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No. 1

“Dentistry for the Masses” or Mass Production

If the dentists of Vancouver would get out and sell the idea of dental service to the public, and bring the cost of that service within reach of the public by the method of larger volume business, dentistry's profits would be unlimited.

Thousands of people are walking the streets of Vancouver with their teeth in hideous shape simply because they cannot afford to pay the exorbitant charges for dentistry that should be available to the masses at reasonable cost.

And the only thing that stands between those thousands of people and the dental chair is a code of professional ethics that is as outworn as mediaeval magic.

The day of the gouge game is past. Professional men can no longer claim divine right to scientific knowledge. The public to-day wants value and no profession can give value unless it has volume to work on. And the only thing that will create volume is publicity—advertising.

Until the professions are Fordized; reduced to terms of maximum service at minimum price by publicity-created volume of business, quacks and charlatans are going to flourish while the reputable practitioners lose ground.

The professional man has something to sell. It is his right to be able to sell it by the modern methods of salesmanship.—*The Vancouver Sun*.

The lay press has great difficulty in understanding the ethics of a profession like dentistry. They really do not know why there should be such a thing as dental ethics. They seem to grasp the idea of medical ethics or legal ethics or theological ethics much more easily than dental ethics. The reason for this perhaps is that dentistry, in their minds, means a mechanical art or something which is akin to fixing a watch or a motor car. It has not yet come to them that dentistry aims to cure disease and maintain health, and that they are giving a health service just like medicine or surgery.

The lay press has an idea that dental ethics means the prevention of dentists from advertising in the daily or weekly press, especially the hindrance of making public the charges for certain operations. Neither of these things has anything to do with dental ethics. Both the physician and the lawyer publish lists of their charges. Dentists might well do the same and be freed from that charge.

The Vancouver "Sun," B.C., publishes an editorial on "Dentistry for the Masses," which presents the idea that remove dental ethics and allow dentists to advertise and then the public could have its dentistry done very cheaply, and dentists would be made rich. The idea is that dental ethics hinders the dentist and the public from getting together and benefitting each other. Of course the press would perform the laudable function of bringing them together by way of advertising.

The "Sun" thinks that if dentists were allowed to give dental services at a low cost and the public knew of its benefits the dentists would get rich because of the amount of demand for their services. We may say to the "Sun" that mass production such as he refers to in Ford's factory cannot work out in dentistry. Dental operations cannot be farmed out like the making of garments or motor cars. No person wants his teeth extracted by the novice or the anaesthetic administered by the boy who is paid \$12 a week. An overseer or floorwalker cannot direct or guide cheap laborers to give good advice in dentistry or to perform wise surgery. The difficulty is that dental education is expensive. Dental equipment and materials are also expensive. The dentist's brains cannot be farmed out. Dental operations are necessarily slow. Hours must be spent in mere details. It takes as much time and skill to fill a small cavity in a tooth as it does to perform an appendectomy. There may be a dozen such cavities to fill in one mouth, but there can be only one appendix to remove. The physician, the surgeon, or the lawyer can do some mass production but not the dentist. The "Sun" seems to think that most dentists are idle a great deal of the time. This cannot be or he couldn't make a living. An office which is at all busy costs ten dollars a day to run outside of the principal's living. A dentist who works six paying hours a day is tired enough to take his rest. It is then simple enough to reason what he must charge each patient to make a living. Very few realize that a dentist cannot take care of more than five or six hundred patients. In the very nature of things dentistry is expensive. All kinds of schemes have been devised to reduce the cost of dentistry to the masses. The hygienist, the apprentice, the student, the nurse, the mechanic, the bookkeeper, the assistant, group practise, oral hygiene, etc.

The "Sun's" references to "the gouge game" are not very complimentary to dentists. All dental ethics demands of the dentist is that he

makes no claims to be more skilful than others; that he does not claim to do what is impossible, that he plays fair with his patients and confreres and acts like a gentleman.

Not one in a dozen advertising dentists fills these simple requirements. The simple fact is that the dental profession is not at all interested in what a dentist charges for certain services are, but they are interested in whether the patient gets the kind of services he thinks he is getting or thinks he is paying for. When a dentist advertises that he will insert amalgam fillings for one dollar each, including treatment, the profession at once becomes suspicious that the public is being deceived, because they know it cannot be done where living is as high as it is in the larger cities of Canada. Supply and demand governs the dental profession as all other things outside of combines. If the "Sun" thinks there is an agreement among dentists in the restraint of trade let him bring action in the courts.

Is Brain Power Inherited?

If we should examine the pedigree of the great race horse Man o' War and find his ancestors were draft horses or Shetland ponies our amazement would know no bounds. If we should find Wild Tom, the celebrated Hereford sire, had brothers and sisters, cousins, uncles, aunts, parents, grandparents that were Holsteins, Jerseys or plain "Scrubs" we should be equally astonished. Yet some people believe that this is what they would find if they looked up the pedigree of a human being. When it comes to the human family they expect to find grapes growing on thorns and figs on thistles. They expect religiousness to grow out of iniquity and genius to be the child of commonplace or foolish parentage. As we have seen nearly all men of great brain power have come of great families, great breeds and powerful strains of blood. Nearly all great men have brothers, sisters, or ancestors, or descendants who are remarkable men and women. If a person is well born with the birthright of good health and average intelligence, it is fairly certain that in tracing his ancestry he will find a great deal of excellence all along the line. We see this if we study the history of great men. It took seven generations of painters to produce a Raphael, seven generations of musicians to produce a Bach, seven generations of preachers and thinkers to produce Ralph Waldo Emerson. Every one of these ancestors was a sign-post pointing down the stream of human blood toward the great ocean of genius into which the river of their common heredity finally poured.

The Fruit of the Family Tree.

How did it come to pass that so many people think that they were especially created and independent of all other things in life.

A recent examination of the school children of Cambridge does not seem to prove what every dentist would expect that the filling of children's teeth reduces the incidence of caries in the remaining teeth.

Dental Propaganda

In Great Britain the Dental Board proposed that there should be published in the regular public press a series of articles on dentistry for which the profession through its organizations and by private donation should pay. There is not unanimity as to the wisdom of such action. Some writers cannot see wherein the ethical difference lies between the individual advertising and the group advertising. "The Representative Board of the British Dental Association passed the following resolution which indicates clearly where they stand on the question: "The British Dental Association was opposed to any proceedings in the nature of a publicity campaign as suggested by the advisory committee on propaganda to the propaganda committee of the Dental Board, and the Association should not contribute to any such campaign or make any appeal to its members for contributions."

Such a scheme of propaganda was carried out in Ontario a few years ago and turned out just as our British friends now fear. The press and the public recognized a scheme of insidious advertising which could not be laid against any individual. They saw in it a plan by which the dentists as a whole would get returns for the money expended. A commercial enterprise.

A Closing Statement on Root Canal Work

To sum up all that has been said; it is almost impossible to reach the apex of even the majority of root-canals, and even if they are reached there is no suitable material that will permanently prevent infection about the apex. But success is in proportion to the thoroughness with which the pulp is removed and the root-canal antiseptically and mechanically filled; in other words, it depends upon the removal of all the conditions favorable to the growth of bacteria. The possibility of the tissues about the apex never becoming infected depends finally upon the resistance of the individual to infection. When the general resistance is low, and there are present enough of sufficiently virulent organisms, then infection will occur. Organisms will only develop when both local and general conditions are favorable. If a root-canal is open at the apex and partly filled with a dead pulp, or if the root-filling is porous or leaks, or if the tissues at the apex have been weakened in resistance by mechanical or chemical irritation, favorable conditions exist for the growth of bacteria. The presence of organic matter (such as dead pulp), or local irritation, or space into which liquid exudate from wounded tissues may pass, or organic or destructible root-fillings, offers favorable conditions for the growth of organisms. The organisms may come from the general circulation, or from the crown of the tooth through filling and canal, or may have been left in the canal at the time of the filling. The two important considerations in filling a canal are, firstly, to maintain a sterile condition, and, secondly (the more important), to leave no condition that will, now or hereafter favor the growth of pathogenic bacteria.

NOTE: Since the above was written over twenty years ago there has been little of value added except antiseptic root fillings which will not irritate, such as copper amalgam.

Notes

Trenton Rotary Club entertained Dr. Conboy, who spoke on care of the teeth.

The Hamilton Dental Clinic is conducted free for the benefit of children and the poor adult.

Dr. Conboy spent a ten days' trip through Northern Ontario, addressing public gatherings on public health problems, but with special reference to oral hygiene.

Dr. Edmund T. Guest was elected chairman of the Toronto Western Hospital Clinic Society for the ensuing year, and Dr. R. R. Whitaker secretary.

The next meeting of the Canadian Dental Association will be held in Halifax just previous to the International meeting, which will be held in Philadelphia. C. D. A. meeting is August 16, 17, 18 and 19, 1926.

The evidence that the physician is more interested in the cure of disease than in its prevention is that there are few health organizations organized by physicians while there are many such organizations under the general direction of laymen.

The Long Island Medical Journal advises physicians to make regular yearly examinations of their patients, and refers to dental practise in the following words: "The dentists are reaping a splendid reward for the propaganda of the past generations. Surely the teeth are not the only organs that need watching."

When the Toronto Academy of Dentistry was formed a few years ago it was accomplished by having all the then existing societies disbanding. Since that time other and new societies are being formed. These must have an appeal to some who want something more or different from what is to be found in the Academy.

At the recent meeting of the Ontario Dental Society four of the standard bearers of the profession were in attendance: Dr. J. J. Neelands, Lindsay, who began practise in 1861; Dr. Solon Wolverton, London, who began to practise 1871; Dr. R. E. Sparks, Kingston, who began to practise 1875; and Dr. Arthur W. Smith, Simcoe, who began to practise in 1872.

Julius Aderer, Inc., manufacturer of dental golds, orthodontic material and appliances has moved its sales room, executive offices, research laboratory and factory from 47 West 42nd Street, New York, N.Y., where it has been located for many years, to No. 115 West 45th Street, New York, N. Y.

At the new address this well-known concern occupies two entire floors. The sales room, executive offices and editorial offices of The AIDER-er (its monthly house magazine) will be located on the 10th floor, with the research laboratory and factory on the 11th floor.

New telephone exchange and numbers are: BRYant 4760-4761-4762 and 4763.

Dr. C. J. Mark has opened an office in New Westminster, B.C.

Harry S. Thompson addressed the Rotary Club of Guelph on oral hygiene.

An interne dental clinic is to be opened in the Hospital for Sick Children, Toronto.

Mr. J. P. Chritien, Montreal, was fined \$50 and costs for practising dentistry without a license.

Dr. D. J. Ferguson, Saskatoon, addressed the Kiwanis Club on Dentistry at the December meeting.

Dr. A. J. Brown, of Mitchell, Ontario, addressed the local Women's Institute on the care of the mouth and teeth.

Drs. L. M. Cullbeck, of Tyron, and R. H. Barrett, of Kingston, P.E.I., have passed the Dominion Dental Council examinations.

Mr. H. W. Rourke, Empress, Alta., and W. McClanahan, Consort, Alta., were each fined \$50 for breaches of the Dental Act.

The dentists of St. Thomas, under the presidency of C. B. Taylor, have completed the dental survey of the school children of the township of Yarmouth and will survey Southwood township and the city schools after the New Year.

Eight dentists of Belleville, Ontario, attended a clinic at Kingston given by Dr. Clappinson, Hamilton, Ontario: Dr. M. Day, Dr. J. W. Kinnear, Dr. H. Fahey, Dr. G. Stewart, Dr. M. J. Clark, Dr. O. E. Marshall, Dr. R. Ward and Dr. G. A. Morton.

It appears from press reports that the Alberta Dental Association brought a Mr. Lees before the Edmonton police magistrate for a breach of the Dental Act. The magistrate imposed a fine of \$400. Mr. Justice Boyle quashed the conviction. An appeal was taken to a higher court and the conviction there reaffirmed. Mr. Lees is a mechanical dentist, who made dentures for those who applied to him but did no extraction of teeth.

ALBERTA DENTAL ASSOCIATION, DECEMBER 4, 1925.

The Alberta Dental Board has just terminated one of the most determined attempts to evade the dental laws ever experienced in Canada. A laboratory man named Lees was fined \$50.00 and costs in November, 1924, for making plates for patients. In the spring of 1925 he was caught and fined \$400.00 on a second offence. He appealed and the Appellate Court sustained the Alberta Dental Board confirming his fine. In December, 1925, Lees was convicted and again fined \$400.00 as a third offence. He appealed, and Judge Boyle of the Supreme Court *ruled insufficient evidence; (though a full upper and lower had been made); and that plate-making wasn't dentistry anyway.* Amazed but more determined an appeal was at once launched. The Appellate Court immediately reversed Judge Boyle's decision and upheld the magistrate's fine of \$400.00. This is a record of three fines on the one man in about a year.

Dr. R. B. Mooney, X-ray specialist, gave a paper on radiography to the Edmonton Dental Society on the evening of December 1st.

A dental assistant is not an entertainer.

A family tree is a fine thing to have if it isn't too shady.

Beauty in a dental assistant is a liability rather than an asset.

When anybody dies of typhoid fever somebody ought to be hanged.

A dentist should never converse with his assistant in the presence of his patient.

If you teach your assistant to lie for you, it won't be long before she will learn to lie to you.

The Northwestern University Dental library is to have added to it the library of Dr. William Trueman, Philadelphia.

It is five times as important to have sound parents before you are born as to have sound doctors after you are born.

Dr. Joe Bricker, Vancouver, B.C., has just made a flying visit to his home in Ontario to see his parents, who have not been well.

Health is the thing that makes you feel that now is the best time of the year and that the thing you are doing is the most important in the world.

When the feeble-minded, the insane or the physically unfit are allowed to marry and bring forth a horde of children somebody ought to be hanged.

Inter-related marriages tend to intensify common characteristics. Thus good blood and good stock are improved, and bad blood and bad stock are degenerated. So if you are of good stock, marry your cousin; if not, avoid the alliance.

One thing the dental student complains of is that there is a want of clearness in description in regard to dental procedures. It is infinitely more important that a dentist should have a good command of spoken English, than the written language, because for the one who is called upon to write down anything in connection with dentistry, there are thousands who are required to express themselves verbally.

KANDYAN CHEW FOR DEFECTIVE TEETH

Slices of arica catechu nuts, a few pieces of tobacco, a dab of moist slaked lime, and one or two Cardomom seeds or other spice, is the recipe for a "chew" for those having defective or no teeth, which accompanies a Kandyen Betel mortar of the seventeenth century, sent by Dr. Casey Wood from Ceylon to the McGill Medical Museum. It arrived last week in a package of items of medical interest illustrating the practice of the art in Ceylon during the medieval and more recent periods. The mortar is of brass, resembling a large salt shaker, and has an iron pestle originally provided with sharp teeth which have been worn away. "The ingredients after being reduced by the pestle," reads the description, "were wrapped in a green leaf of the Piper Betel and chewed, accompanied by the expectoration of a blood red juice."

Hygiene aims to improve the individual, eugenics to improve the race.

We are glad to receive a new edition of Dr. Head's work on Every-day Mouth Hygiene. Published by W. B. Saunders. Canadian agents are D. T. McAinsh, Toronto.

(a) Do you endeavor to save the vitality of any pulps which are exposed?

Yes.

.b) If so, what cases do you consider favorable or unfavorable?

Favorable, accidental exposure. Unfavorable, exposed by decay.

(c) What method do you use in attempt to preserve vitality in above cases?

Spoon shaped platinum cap filled with zinc oxide and oil of cloves inserted over exposure covered with inlay specially prepared and set with copper cement.

(d) When it is considered necessary to remove a pulp what method or methods do you use to secure the least painful and most satisfactory operation?

Inject Procaine and Epinephrin 2% Sol. very similar to extraction of the tooth.

Give case histories.

Man of thirty. Lower left 1st molar pulp exposed accidentally with bur three years ago. Tooth O.K. to date.

Boy twelve. Sup. Rt. Cent. Corner broken off by fall two years ago. Tooth O.K. to date.

C. B. TAYLOR,
St. Thomas.

THE MEADOW LARK

Of all the little choristers
Of hill and plain and dale,
I love the little meadow lark
Who cheers the prairie trail.

Up from the sod where bluebells nod
And the blood lilies flame,
He seeks the nearest perch to trill
His welcoming acclaim.

He fairly bursts his little throat
To tell his joy to me,
For life to him from dawn to dark
Seems one sweet ecstasy.

—Mark G. McIlhenny.

An extract from *The History of Signboards* (Second Edition) published by James Camden Hotten, Piccadilly, London, in 1866:

"The TWO HEADS was the sign of a dentist in Coventry Street in 1760. One head probably represented the mouth as possessing a fine set of teeth; the other doubtless showed how unfortunate is their absence. The advertisements of this man are gems in their way:

'Ye Beauties, Beaux, ye Pleaders at the Bar,
Wives, Husbands, Lovers, every one beside,
Wh'd have their heads deficient rectify'd,
The Dentist famed who by just application
Excels each other operator in the Nation,
In Coventry's known street, near Leicester Fields,
At the TWO HEADS full satisfaction yields.
Teeth artificial he fixes so secure,
That as our own they usefully endure;
Not merely outside show and ornament
But ev'ry property of Teeth intent;
To eat, as well as speak, and form support
The falling cheeks and stumps from further hurt.
Nor is he daunted when the whole is gone,
But by an art peculiar to him known
He'll so supply you'll think you've got your own.
He scales, he cleans, he draws; In Pain gives Ease.
Nor in each operation doth fail to please.
Doth the foul Scurvy fierce your Gums assault?
In this he also rectifies the Fault
By a famed Tincture. And his Powder nam'd
A Dentifrice is also justly fam'd.
Us'd as directed 'tis excellent to serve
Both teeth and gums, cleanse, strengthen, and preserve;
Foul mouth and stinking breath can ne'er be loved.
But by his aid those evils are removed.'

—*London Evening Post*, July, 1760."

Found in a Kingston library by C. S. McBRIDE,
Woodbridge, Ontario.

DOWN WIND

"A wet sheet and a flowing sea and a wind that follows fast"
Sounds mighty well 'round a blazing grate, snug-harbored from the blast,
But, have you tended sheets and steered and watched the straining stick,
And wished to God preventer stays were fitted double-thick?
"Before the gale" makes pretty prints to hang around a room,
I'd sooner buck the seas close-hauled than dodge a gybing boom,
I'd rather take the drenching slop and leave some cares behind
For many things can happen when she's romping down the wind.

—*Mark G. McIlhenny.*

CORRESPONDENCE

A Bureau of Information

Orillia, Dec. 1, 1925.

Editor Dominion Dental Journal.

Dear Doctor.—The majority of dentists to-day seem satisfied to accept things as they are—assume what is told them of the quality of supplies to be true—and accept the convenient theories of pathology as gospel and fact.

I see in Dr. C. W. Soules' recent letter some evidence of an enquiring mind. I hope the Department of Dental Research will grow into the Research Bureau he desires, and that their findings will not be quietly smothered because the truth will hurt somebody. If it is good for some dentists to get the details from the C. O. P. A. I guess the facts will help us all. However, there are hundreds of dentists who have no chance to attend C. O. P. A. meetings or public meetings where these reports are presented. I think this kind of information should be available without special request.

Even at a Dental convention dare we believe all we hear? How much of it is safe in practice? How shall we learn except to "try it" and "experiment"? Regards Osogen shall we "take their word for it"? Even if it is as represented, how can anyone be sure it cannot become a menace to health until it is tried in the mouth for several years—then remove the teeth and culture and section? Shall we base our opinion on one devitalized tooth that functions without pain, or shall we link up the clinical with the pathological laboratory? Where shall I find a patient who will submit to such a program and allow the tooth to be removed when it seems comfortable?—say after lasting two years or more with a root canal filling.

What way shall we determine the safe candidate for root canal work? Who shall bear the expense of such investigation? Can private practice give us our proof?

Such work has a place in the clinics where X-ray and pathological departments are available for research work. Even if you or I were able to X-ray every tooth before extraction, then culture it, and section any adherent growths or bone—who would accept my reports? These are all medical specialties, and as such require trained men with ample equipment.

Try to get patients to pay for this and see where your practice will be in six months time. In spite of it all a classmate writes: "We are having a dental meeting, Dr. X has been doing Oxpara root canal filling at \$2.00." Is it then any surprise that dentists who might do first class root canal work are resorting to the forceps?

I believe it is generally true that the recent graduate finds himself obliged to forget a lot of learning and revert to the methods in vogue by men where he is in practice. Often these dentists are forty years in practice and easily a decade behind in their methods and fees. I believe thus arises the popularity of the one-time athlete who barely scraped through his exams.—as a dentist he succeeds by pleasing his patients because he does

what they want. It becomes more and more evident that it pays financially not to know too much, nor allow what you know to interfere with compliance with the patient's wishes. The dentist with the low fee catches the most worms, but the service he gives is a dangerous service and at high price even if it were free of financial cost.

We, as a profession, need a central bureau where specimens could be sent for study and standard reports could be kept regarding the clinical side. It should be possible by the co-operation of a lot of dentists to build up a large fund of information. This is in the public interest and should be done at their expense. Observe how much excellent research work done to-day is of little practical value because it neglects the clinical picture.

Let anyone read Dr. Weston A. Price's books on Dental Infections. Have we any right to say he is wrong until we prove he is? Will this proof not require a complete research plant? In the meantime, if he is right I fear hundreds of dentists are doing their patients unmeasurable harm.

Is Dr. Price right when he says he sees no hope for dentistry till a lot of us die off?

HAROLD D. MORRIS.

R. G. McLaughlin, L.D.S., D.D.S., Dies

In the death of Dr. Richard G. McLaughlin, 54 College Street, the dental profession loses a valued and esteemed member. He occupied a high place in the councils of the profession. In no place will Dr. McLaughlin's loss be more keenly felt than in the Faculty of Dentistry of the University, where Dr. McLaughlin held a prominent place.

Richard G. McLaughlin, L.D.S., D.D.S., was born in the county of Peel in 1859. He was the son of the late Joseph and Isabella McLaughlin, coming of Scotch and Irish parentage.

He was educated in the public schools of Ontario and received his subsequent training at the Brampton Collegiate Institute. For some years he was engaged as a teacher, and in 1885 entered the Normal School, Toronto, where he completed his studies.

The following year he began the study of dentistry in the Royal College of Dental Surgeons of Ontario, and graduated with honors in the spring of 1889. In the same year he had the degree of Doctor of Dental Surgery conferred upon him by the University of Toronto.

At the inauguration of the Toronto Dental Society in 1890, Dr. McLaughlin was chosen as its first president. For many years he was chairman of the Oral Hygiene Committee of the Ontario Dental Association and president of the Dental Protective Association.

In 1916 he was appointed professor of jurisprudence on the Faculty of the Dental College, and when the new Faculty of Dentistry of the University of Toronto was organized he was appointed professor of ethics and dental jurisprudence.

He was a member of the board of directors of the Upper Canada Bible Society.

In religion the late Dr. McLaughlin was a Presbyterian previous to the union, of which he was a strong advocate.

The Late R. G. McLaughlin

The following resolutions on motion of Dr. Cowling, seconded by Dr. Conboy, were carried:

BE IT RESOLVED: That this Council of the Faculty of Dentistry of the University of Toronto record its sense of great loss through the death of Dr. R. G. McLaughlin, Professor of Ethics and Dental Jurisprudence.

As a teacher Dr. McLaughlin was at once an instructor and friend of all the undergraduates. His counsel and guidance were eagerly sought and greatly appreciated. Through his unswerving insistence upon a high ethical standard in professional life, an indelible impression was made upon the student mind. Such teaching has contributed very largely towards the establishment of high ethical standards throughout the profession.

Dental literature has been greatly enriched through Dr. McLaughlin's contributions which, unfortunately, have been altogether too few. His literary style was suited for emulation, being characterized by clearness of thought and expression. At all times he wrote as one having a correct perspective of the various difficult dental problems. In the literary field of endeavor Dr. McLaughlin's place will not easily be filled.

To all graduates in Dentistry he occupied a unique position in that he was a wise and faithful counsellor to all who sought his aid through the Dentists' Legal Protective Association, of which organization he was the first president. Here his ability in weighing evidence and forming sound judgments elicited the admiration and respect of the entire dental profession.

In the various capacities in which Dr. McLaughlin has served, whether as a member of the Faculty Council, Faculty Executive, or the various local and provincial organizations, his counsel and advice have been greatly esteemed.

Of him it may truthfully be said that in whatever capacity he served, whether as teacher, counsel or executive, Dr. McLaughlin merited the admiration of all who were privileged to know him; but it was in his relationship as friend that he was most appreciated. He had the faculty of making friends and such friendships were lasting. Dentistry has indeed lost a true friend. In the words of Robert Burns:

"An honest man now lies at rest,
As ever God with His image blest;
The friend of man, the friend of truth,
The friend of age, and guide of youth."

BE IT FURTHER RESOLVED: That the Secretary of this Faculty Council be instructed to convey to Mrs. R. G. McLaughlin, widow of the late Prof. R. G. McLaughlin, the sincere sympathy of the members of this faculty, with her in her bereavement.

The meeting then adjourned.

COLIN C. ROUS, Secretary.

BURS RECUT 25c. PER DOZEN—Doctor: If you want real workmanship mail your old used burs for recutting to the well known **QUALITY** Bur-Recutters, Sheun & Co., 602 Oakwood Blvd., Chicago, Ill., Established 1906—Many testimonials on hand.

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No. 2

ORIGINAL COMMUNICATIONS

Focal Infection

H. A. FARRIS, M.D., MEDICAL SUPERINTENDENT ST. JOHN COUNTY
HOSPITAL, READ BEFORE THE ST. JOHN DENTAL SOCIETY, ST.
JOHN, N.B., NOVEMBER 30TH, 1925.

Mr. President and Gentlemen:

When you asked me to read a paper before this society, I accepted with a good deal of pleasure. Two things I did not then realize, viz.: the shortness of the time I would have, as I was especially busy, and the difficulty of discussing such a topic as Focal Infection, as I consider this one of the important topics in the practice of medicine. Luckily for you, I have had to limit myself very greatly. While, no doubt, the man who reads the paper gets the most out of it, he should bring before the meeting many points for discussion, and I hope that is what I will do this evening. Owing to the lack of time in preparation, as I stated above, I will have to give you my own personal experiences and impressions and will not be able to refer much to literature, as I would have liked to have done.

Perhaps in no other branch of medicine than in chest work is focal infection so important, and this for two reasons. The first reason is that tuberculosis is usually the result of childhood infection and later develops when there is extra stress or lowered resistance. Focal infection plays a large part in this lowered resistance and, I believe, accounts for many cases of tuberculosis. Dr. Parfitt of Gravenhurst once said to me that one should never be satisfied with the diagnosis of tuberculosis, but should always attempt to make the additional diagnosis of why the patient has tuberculosis.

The second reason is that the symptoms of focal infection so closely simulate tuberculosis that they are very frequently mistaken for one another. I am quite positive that in the past year of all the patients who have been sent to me for the diagnosis of tuberculosis, I have diagnosed focal infection twice as often as I have tuberculosis. The early symptoms of tuberculosis and focal infection are remarkably similar. In both we

may get a little elevation of temperature, rapid pulse, fatigue, general malaise, pains and aches through the body, especially in the shoulders and chest, nervousness, anaemia, dyspnoea and palpitation, loss of weight, mental depression, enlarged glands, and many other symptoms. If the focal infection is in the nose and throat and, occasionally, even in the teeth, there may be a secondary cough, expectoration and recurring colds, so that one can see there is every reason for suspecting tuberculosis in many of these cases of focal infection. Unless focal infection is excluded, one cannot be sure, in many cases, of the diagnosis.

A few of the places where we get focal infection are as follows, and I enumerate them somewhat as I think of their value in tuberculosis work: tonsils, antrum, sinuses, teeth, caecum, appendix, gall bladder, uterine appendages, foreign body in the lung, etc.

It is astonishing the number of tonsil cases that one sees in the course of a year, and the complications one gets from tonsils are most varied. A few years ago the pendulum swung very far toward taking out all tonsils, and now, unfortunately, it is swinging too far the other way. While acute rheumatism has become almost a thing of the past, due to treatment of focal infection especially in the tonsils, there is nevertheless a great tendency recently to leave the tonsils, even when they are quite diseased. Personally I do not agree with this viewpoint. When tonsils are definitely diseased I do not believe they are of any use to the patient and they may be a great source of danger. While the removal is an unpleasant operation, I think with sufficient rest—three weeks in bed is required—and with a carefully performed operation, bad results very rarely occur and the risk is very small. As I was writing this paper a doctor came into my office. He used to suffer most intensely from asthma. I advised removal of tonsils and he was completely cured. Another physician's wife in this city had exactly a similar experience. I have seen fever that had persisted for a long time subside, also recurring colds and bronchitis disappear with removal of tonsils. I have had in the hospital patients being treated as tuberculous, and, after getting their tonsils removed, was able to discharge them as non-tuberculous, or, at least, as not clinically tuberculous. Unfortunately many people wait too long before getting the tonsils removed and the damage is done to the lung and a secondary bronchiectatic condition exists. Frequently, in the removal of tonsils, we see a very severe flare-up of the previous condition that existed, such as rheumatism, pleurisy, enlarged glands of the neck, etc., and for this reason it is probably wise in the large majority of cases to wait until the acute symptoms have subsided, and occasionally too much haste may cause very serious results, but in other cases an operation is required to clear up acute symptoms. I have seen an enlarged thyroid clear up with the removal of tonsils, and I have no doubt that many cases of recurring pneumonia would disappear if some focus of infection, especially in the tonsils, were removed. In cases of chronic nephritis, the tonsils are very frequently the offender, perhaps more frequently than are the teeth. The majority of large glands in the neck I have found due to the focal infection of the head, especially tonsils, and I like to have all tonsils removed in cases of enlarged glands in the neck, unless it is like one patient I saw last week, where it was clearly due to abscessed teeth. In advising a patient to have his or her tonsils removed, I usually explain that the tonsils are diseased and are of no value and that there is no mistake in getting such tonsils out,

as even if they are not causing symptoms at present, they may cause symptoms in the future, and that in probably twenty-five per cent. of the cases relief or cure of the immediate symptoms may be given. If one thinks that all symptoms of focal infection are due to tonsils, he is going to be very greatly disappointed in his results with the removal of tonsils, but if he expects about twenty-five per cent. of good results, he will then be delighted with the result on the removal of this source of infection. I have wondered lately if disease of the tonsils could not account for a good deal of the bad condition of the teeth and pyorrhea, as such a nearby source of germs and infection must be of considerable importance. Since writing this paragraph I received the Medical Clinic of N. A., November, 1925, and an article thereby says "that good teeth depend on good nose and throat condition, and bad teeth suggest diseased nose and throat."

Disease of the antrum is probably of more interest to the dentist than any other focus of infection, outside of the teeth. In the past year, I have found a large number of cases of antrum disease, and I am quite sure that I have had thirty cases operated on, and today one of the first things I examine for is disease of the antrum. Unfortunately, until recently I have been satisfied with the diagnosis of antrum disease and did not go back further to find the original cause. Some little time ago a clergyman was sent to me with the diagnosis of tuberculosis. After a thorough examination I made a diagnosis of myocarditis, based on the weak rapid heart, dyspnoea, cough, and expectoration, and general appearance of the man, combined with the type of heart sounds. I advised a three months' rest, under the supervision of a good physician. He went to Toronto, and an expert cardiologist there excluded my diagnosis of myocarditis, and while the patient was in the hospital he coughed up a number of fibrinous casts and the diagnosis of fibrinous bronchitis was made. He then went to the Clinic, where this diagnosis was verified, and he was advised that nothing could be done for him. As his daughter was a patient of mine, I saw him frequently on his return and, after much urging, got him to return to me for a further opinion, as I had a feeling that there was a focus of infection somewhere causing this condition. As a nose and throat specialist was inclined to think his nose was normal, his antrum was the last thing I X-Rayed and here the trouble was disclosed. After some delay on the patient's part, Dr. Chipman operated, and the relief was remarkable. Later the patient asked Dr. Chipman if the extraction of a tooth could have any relation to this trouble, and showed him where he had had a canine tooth removed, and told him these symptoms developed shortly afterward. He had evidently had an abscessed tooth and during the extraction it had broken into the antrum.

In looking up some literature for this paper, I came across an article in the Journal American Medical Association, November 14, 1925, in which the writer draws attention to the fact that many people believe that most diseases of the antrum are secondary to disease of the teeth, but he does not hold this opinion himself. He quotes a friend of his, Waldron of Minn., who has found a majority of cases of antrum disease secondary to disease of the teeth, and I also found a number of other authorities who claim this same thing. Personally I cannot see why this should be so, and I am inclined to think that the indoor climate has more to do with antrum disease than any other one factor, but I am looking forward to study of

future cases to see what relation the antrum disease has to the teeth, and I expect to co-operate very closely with the dentists and nose and throat specialists.

I think that every dentist should be familiar with the symptoms of antrum disease and should realize that with abscessed teeth in the neighborhood of the antrum, there is a great possibility of this complication. The symptoms I have found in most cases of antrum disease are as follows: nasal discharge with recurring colds, pharyngeal droppings, headaches, depression; secondary bronchitis, later followed by bronchiectasis; afternoon rise of temperature and rapid pulse. When writing this paper I was interrupted by a woman who came to me with intense dyspnoea, pallor, violent cough, fatigue, nasal catarrh, and I diagnosed antrum disease. If the dentist will keep these symptoms in mind, he will be able to refer many cases for early diagnosis.

Regarding the treatment of antrum disease. I believe it is very important that this should be carried out thoroughly. The cause should be diagnosed first, and the cause removed, whether it is teeth, blocking of nostril due to septum condition, etc., or a bad indoor climate. Then treating the nose and shrinking the mucous membrane may give sufficient drainage to give relief. Puncturing and washing out the antrum may give the relief that is required. Drainage of the antrum through the nostril will clear up a number of cases, but I have been a little disappointed in a number of cases about the permanency of this, and I believe the operation known as the Caldwell-Luc operation will be performed on many of these cases later. This operation is of great interest to the dentists as the antrum is opened up through the canine fossa and washed out here. The great objection that has been raised by many is the fact that it may destroy the nerve or injure the blood supply of the tooth. Many men claim that it is unnecessary to injure the nerve and, even if the nerve should be injured, in a certain percentage of cases, it will recover, and even if the nerve is dead, a tooth with a dead nerve is not necessarily a dead tooth. Undoubtedly recently we have become very much afraid of crowned teeth, but this dead tooth would hardly be in the same class as a crowned tooth; and even if the tooth should be sacrificed entirely, there is probably no other way to get this proper drainage. Formerly a dentist was occasionally called in to extract a tooth and drill a hole into the antrum for drainage. This operation, I think, has been given up entirely. It has been suggested by some that the treatment of antrum disease should be in the field of the dentist and, as the dentist gets to be more and more of an oral surgeon, possibly this will happen, but, at present, it seems to me it would be more advisable to refer these cases to a well-trained nose and throat specialist, with the dentist responsible for diagnosis and treatment of any diseased teeth present.

Focal infection of the ethmoid and sphenoidal cells is common and this condition I find I can only suspect and refer to a nose and throat specialist for diagnosis. The X-Ray has helped me considerably in the diagnosis of ethmoid disease, but, so far, I have not been able to use it in the diagnosis of disease of the sphenoidal cells.

The teeth are very frequently the source of focal infection. There are three classes of opinion regarding focal infection from the teeth. There are those who subscribe all symptoms of focal infection as due to the teeth and will even believe appendicitis, etc., are due to diseased teeth.

Another school is inclined to discount entirely the effect of focal infection from the teeth. Not long ago I heard one of the most prominent physicians in Canada state that he had lost all faith in symptoms of focal infection from the teeth. I would like to take the ground between these two, as my experience has proved to my satisfaction that both extremists are wrong. I have had many patients where I have had the teeth removed and no improvement, and then when I had some other focal infection treated the symptoms cleared up. Just recently a patient had her teeth removed, tonsils removed, and it seemed as if every focus of infection were removed and she was sent to the hospital with the diagnosis of tuberculous Iritis. Luckily she developed acute appendicitis. Her appendix was removed and the Iritis cleared up immediately, having been caused by a chronic appendix, and I have had a great many similar experiences regarding other foci. A patient was suffering from neurasthenia, anaemia, weakness, and general poor health. We had abscessed teeth and bad tonsils removed, and every effort made to exclude the focus of infection, but with no result. Finally a barium meal was given and it disclosed that the sigmoid flexure was obstructed by a retroverted uterus, causing a reversed peristalsis and dilated caecum. On removal of this her condition cleared up entirely.

Regarding the school that claims that the symptoms from abscessed teeth are infrequent, too frequently I have seen patients cleared of all symptoms by treating the teeth to even consider this. I have a patient in mind, a Major in the army, who was sent to me a few years ago with the diagnosis of tuberculosis. He had cough, weakness, afternoon fever, loss of weight and pains in chest. I excluded tuberculosis and sent him away with the diagnosis of focus of infection of unknown origin. This was before I had easy access to the X-Ray or was much interested in teeth. He went to Montreal, had his teeth extracted, and his symptoms cleared up immediately. We had a patient in the hospital who had considerable pulmonary tuberculosis, which steadily improved, but in spite of this her temperature remained elevated to nearly 100 for several months. I assured those interested in her that her temperature was not coming from her chest. She developed an acutely abscessed tooth, which was extracted, and her temperature dropped to normal. She was discharged from the hospital a month later, was married three months later, and has been well since. One of our local surgeons had severe rheumatism in his thumb, and this was cured when an abscessed tooth was removed. The symptoms for the first ten days after extraction of tooth became acute, and this, by the way, is a very frequent symptom when you strike the right focus of infection. I saw in consultation recently a very interesting case. She had been diagnosed as tuberculous by two general physicians, and the radiographer. On my routine examination, it did not seem as if the chest were typical of tuberculosis. On examination of her mouth I found a very badly abscessed tooth. I refused to give an opinion until the tooth was extracted. The physician in charge of the case would not believe this was causing the symptoms and he delayed having it extracted, but as the symptoms persisted he finally had it removed, with immediate relief. Undoubtedly in this case, the patient had a metastatic infection in the lung, and I have seen one or two other cases with similar findings. I have seen a case of a man who was practically insane. He was sent to the County Hospital with the diagnosis of tuberculosis, and we transferred him to the General Public

Hospital with the diagnosis of abscessed teeth. They had his teeth removed, with immediate relief, and I have been told his symptoms disappeared entirely. If one expects all symptoms to be cleared up by removal of teeth, he will be greatly disappointed. If he expects good results in say twenty-five per cent. of the cases, he will be delighted with the result of treatment of teeth conditions. Undoubtedly there are many abscessed teeth that are not producing symptoms, and one is appalled at times to see the condition of the patient's teeth and yet they are apparently in the best of health. A point I would like to make here, with the idea of bringing out discussion, is that the medical men frequently find it difficult to get a dentist to extract a tooth that is acutely abscessed, and I personally cannot see the logic of this. The surgeon will not hesitate to operate on an acute pus condition in a bone, and for this reason I cannot see why the dentist should hesitate to relieve the pus and the cause at the same time. There may be some risk, but it seems to me there is more risk in not operating. Possibly one of the reasons that we occasionally do not get results from the extraction of a tooth is that the tooth is extracted and part of the root left there, or the pus pocket has not been treated afterward. I believe I have seen more than one case where the symptoms were not relieved because the pus pocket was disregarded. I am hoping to hear something this evening of what treatment should be given these pus pockets. In addition some men will have teeth extracted, or tonsils removed before really attempting to make a diagnosis, and naturally there should be some indication for any operation.

The importance of the teeth to men doing chest work cannot be over-exaggerated. We stress, in the Public Health work, the need of the care of children's teeth and, in combating tuberculosis, we must combat all other diseases. As I stated previously, tuberculosis is a childhood infection, plus some other disease or condition helping to lower the resistance, and I think probably the teeth are frequently the offenders. If we could have the children's teeth attended to early, we might prevent much illness. In patients admitted to a Tuberculosis Hospital it is astounding the bad condition of the majority of the teeth. Undoubtedly in a tuberculous patient, the general health affects the teeth, and we find these patients require constant supervision and treatment of their teeth. There is possibly another reason why we get so many cases of tuberculosis in persons with bad teeth—the teeth are not good for chewing, the digestion is soon influenced and the nutrition becomes poor, and where nutrition is poor, disease develops. It seems to me in a Tuberculosis Institution complete dental equipment is absolutely essential, and it is only by the co-operation of the dentist in many of these cases that one can see whether the symptoms are coming from the teeth or the chest. To get good results in treatment of tuberculosis, the teeth should be in good condition.

I believe that foreign bodies in the lungs as foci of infection are being frequently overlooked. This has been demonstrated in a remarkable manner by Jackson of Philadelphia. I have sent him two cases where the foreign body was a tooth in the lung. One he extracted with ease with a complete recovery. The other had been present so long it had worked through the bronchus and was in the lung tissue. When the dentist loses a tooth, or part of a tooth, he should always have the patient X-Rayed immediately, as a tooth may enter the lung and produce no symptoms whatever for days or weeks. I believe even in the best of hands a tooth or part of a tooth may

slip away from the dentist, but there is no excuse whatever for taking it for granted that it has entered the stomach, so the patient is told nothing. If it enters the bronchus it sooner or later causes a most serious focus of infection. If diagnosed early, it can be removed by the bronchoscope before permanent damage occurs.

In conclusion, I would like to urge upon you the importance of focal infection and its great place in medicine. The teeth are not the only source of focal infection, and the dentist should not be carried away with the idea that the teeth explain all symptoms; but the point should always be remembered that diseased teeth very frequently produce very serious symptoms. I would like to appeal for a much greater co-operation between the dentists and physicians. The field of the dentist seems to be growing and he is getting to be more and more of an oral surgeon, and in this way the work of the physician and the dentist is becoming much more closely allied. The importance of the dentist in preventive medicine can scarcely be overestimated, and let us hope the physicians will more and more co-operate with the dentists in the great work they are doing—not only for the teeth themselves, but for preventive medicine.

The Little People

When the moonbeams, soft and misty,
Filter through the forest aisle,
Then the Little People gather
For their evening dance the while.

Lords and ladies, lance and pennant,
Harlequins and sober seers,
Peasant folk with wife and babies,
Every walk of life appears.

True it is, these Little People,
Last year's milkweed pods may seem,
But true lovers always see them
As the fairies of their dream.

—Mark G. McIlhenny.



“Infection”

In this day of highly developed dental science, it is a surprising fact the way in which the laity yet regard the term “infection,” when applied to dentistry. In surgery, should pus be associated with an operation, the surgeon is given credit for the skill necessary to get his patient safely by; in dentistry, pain, illness or swelling, frequently gives rise to insinuations of both carelessness and clumsiness. The general knowledge of germ life should be sufficiently developed to have us beyond that stage, but the story of a case in practice would seem to contradict that idea.

As the case refers to a condition any dentist is apt to meet with at any time, the recitation of the facts may be of interest. The dentistry done was of the simplest routine type, but interference changed it into an almost tragedy for the patient and dentist. An upper second molar root was removed one evening, a toothache being the cause per usual. Its neighboring first molar contained a good looking filling. Three days later the patient reported a painful condition in that region. An X-Ray cast doubt on the root condition of the filled first molar. Suggestions of antrum trouble were made, and instructions to report were given, with the possibility of removing the suspicious one in mind. The patient never returned.

Later reports told of the patient's consulting a medical practitioner. Instead of referring to the dentist, this man pronounced the case “infection,” due to the extraction, rushed the man to the hospital, and applied hot packs to his face. At this point it might be pertinent to quote from the report of the American Hospital Association: “A routine dental examination of hospital cases should be included as part of the physical examination.” As a result of the applications, great swelling appeared on the face and neck, from whence pus was let out. This, flowing beyond expectations, an eye, ear, nose and throat practitioner was consulted. The result of this was the removal of a pair of tonsils. The pus kept on. Passing over a period of months found the patient up and around, with an opening in his neck from which pus flowed. At this late date it seemed to occur to the attendant physician that a dentist might know a trifle concerning the mouth and contents. It would not look well to now call in the real owner of the case, so the patient was handed to another dentist to do as he pleased.

This man found a chronic antrum case, as at first suspected, extending to and including the third molar, did his extractions, now very necessary, and irrigated. On the solution being forced into the antral cavity, it flowed from the incision in the neck, pointing rather plainly to the source of the original trouble. The usual suggestions of damage suits, ably assisted by a local dentist, proved something of a boomerang to the originators. Such an attempt would have been more than welcomed to clear the atmosphere and fix the responsibility where it truly belonged.

With the welfare of the patient as the primary object, and the professions working together, how much better the result could have been in a purely dental case of dental origin. Co-operation could have saved a hospital trip, much pain, to say nothing of the cash the man had to part with. The ill-will associated with these incidents could have been entirely eliminated.

Income Tax Reductions and Exemptions

ARTHUR DAY, D.D.S., L.D.S., Toronto

Read before the Academy of Dentistry, Toronto.

I would not presume to have my name put on the programme because I never claimed to know much about any one subject, and I do not claim to know this one. I merely gathered the information from the proper sources and pass it on to you for what it is worth. In fact, I did not have the selecting of the subject. The programme committee selected it, and as no one in the society seemed to be well up in it, they thought I was as good as anyone else to talk about something I knew nothing about. The subject given me was "The Income Tax." I do not know who instigated this law, but have no doubt he was hanged, drawn and quartered, shot at sunrise and given imprisonment for life.

The subject is such a large one, and as my time is limited, I will confine my remarks to the question of: What are Deductions and Exemptions? These are probably the most popular parts of an unpopular question. If you wish to know all the taxable items, I would refer you to certain officials in the Income Tax Office.

The study of the question of deductions and exemptions shows it to be very technical and, therefore, hard for anyone other than an accountant to understand. As the auditors put it to me, "It would be like a dentist trying to explain to them the technique of filling a tooth."

In making your returns you are expected to give correct amounts and the headings under which they are must be truthful. If the information given by those headings is not explanatory enough it is for the tax office to ask for further information. All that is expected is that you keep within the law. The Dominion and Provincial Governments made the laws, and if they are not satisfactory the governments have the power of changing them. Also bear in mind that the tax officials themselves are not perfect, and they are still working on the problem of what constitutes the proper deductions and exemptions. New questions are arising constantly, and it will probably be some time before there is a definite standard for making a dentist's return. It has been decreed by the highest Judges in England that the return is honest as long as it is within the law. The taxpayer should not be too scrupulous. Notice how little time and care the officials take in talking over your statement with you.

Fortunately, while, as a class they are trying to get all the taxes they can, having developed the feeling that the public are always trying to cut down the amount, many, or most of the Tax Auditors give a reasonable consideration to the taxpayers' view.

If the auditors make a wrong ruling, and one which favors the taxpayer, the latter is not bound to help them, provided of course no information has been withheld. Such a case sometimes happens. Once the government appoints an official to look after its side, the taxpayer is relieved of all responsibility of seeing that the official does his work,—the same as in the Courts, one is not expected to help the opposing side.

The onus rests on the taxpayer to prove such disbursements as were actually made and to show their relation to the business, that is, he must show that they were expenses incurred in the earning of the income as shown, but an informal memo will do as long as the items are written down when either the disbursements occur, or afterwards. You then have a record, and the onus of disproving it has passed to the tax authorities.

Dentists probably make less profit in their profession than they think. Their annual business statement is not complete in the first place, and their income return is made from the annual statement. In an endeavor to make bookkeeping simple and not take too much time, many of the systems of bookkeeping printed specially for dental offices are not sufficient to show a complete record, especially of the expenses. Time could profitably be taken in this society in studying the form of a proper annual statement. This is irrespective of how small are one's profits. If a man is not making enough profit, the sooner he knows it the sooner he is apt to make the proper effort to correct the condition. An Income Tax Essay should really follow one on the making of a proper annual statement.

No doubt dentists could lower their income tax through a more complete record of expenses and a greater knowledge of those deductions and exemptions which may be allowed by the tax authorities. The dentist must show in addition to whatever income he receives from his profession, any outside income, such as receipts from rents and investments. It is very much easier to remember the source of income than the expense or deductions which apply against such, so that it is very much to our interest to have a record of all deductions which may apply against gross income.

Income returns may be made on a cash statement (cash receipts and disbursements), or on a revenue and expense statement, that is, one showing cash receipts and charge accounts, and all expenses whether paid or still owing.

It follows that if a taxpayer shows a *gross income* he must also show whatever deductions are necessary to arrive at his *net income*. A good rule he can remember in connection with all disbursements is this—If one is made poorer because of a disbursement, it is an expense. If we will bear this in mind, we can answer for ourselves most of these questions which come up from time to time as to whether this or that is a proper deduction. The money you take in is termed "Income" or Gross Income. The expenses of your business are deductions. These deductions which are considered proper are allowable deductions. The difference between *gross income* and *deductions* is termed Net Income. Exemptions are the part of your net income which is not taxable, such as so much for each child, etc. The remainder is your net taxable income.

As a rule the accounts used in our bookkeeping system will form a basis for arriving at the amount of deductions. The following are the headings of expense accounts used by the writer: Office Maintenance, Office Expenses, Sundry Expenses, Supplies and Metals, Dental Laboratory, Bad Debts, Advertising, Bank Charges, Depreciation, Special Rest Accounts.

Without going into all the expense accounts, we might take the time to mention a few which are sometimes overlooked, such as cash short in balancing cash accounts; premiums paid for indemnity insurance; payments to settle claims for alleged malpractice; expense of moving;

convention fees and expenses; dental literature; and others which will be described more fully later. These all are deductions even though they may not show in your books.

RE THE DOMINION PRIMARY INCOME

A large amount can not be entered under sundries without the officials asking for a classification of this account.

Under Bank Charges interest on borrowed money or an overdraft is deducted, but the Dominion does not allow this on a loan with which to purchase a Government Tax Exempt Bond. According to the strict reading of the Act, interest on any borrowed money is a questionable deduction. However, in practice, they do allow it. The interest, however, on money owed for equipment is unquestionably allowable.

While depreciation is in theory based on the life of the wasting asset, in practice the tax authorities will allow 10% per annum on office furniture and equipment, and higher rates, up to 20%, on special equipment, which by its nature has a shorter life. Obsolescence should be kept in mind. By life is meant economical life. Therefore, if any equipment is discarded to make way for something more up-to-date, the total cost of the discarded article is allowable as a charge, spread over the economical life of the asset involved.

Repairs to furniture and equipment is an allowable charge. Articles which have a short life, like linen, are allowable as a charge for their full cost in the year in which they are bought. As to new equipment—this depends on the value of the article bought. If it is small it will be allowed. Alterations and renovations to office are allowable.

Bad debts—The City and Dominion allow this on the revenue and expense return. The experience of the writer is that the Dominion in the past has allowed it either way. Personally, I advise a cash statement return.

Advertising—This is an expense in which many items are often overlooked. It would be impossible where our time is limited, to explain all of these; but, in short, you should charge to advertising all expenditures made for the purpose of increasing the business either directly or indirectly. Publicity must be accepted as proper business for the professional man and this is an essay on the business part of dentistry, and, as regards the income tax, we are considered only from the business standpoint. Money spent for the purpose of getting business is one of the main expenses. Advertising includes the fees of a Club which one joins to increase his business connectoin, or part of these fees, if one joins for personal reasons and still it does happen to increase business, such as a first class Golf Club, Fraternal Society, a Service Club, etc.; special entertainment in order to mix with prospective desirable patients; buying tickets from a patient or prospective patient rather than refuse, the money spent at say a bazaar, so as to create a good impression; the extra price paid for some personal purchase from a prospective patient, over the price it could be bought for elsewhere. It includes the expenditures necessary on account of being in business, such as the size of a donation to a public charity. One might feel like giving \$1.00 but is forced to give \$5.00 on account of being a business man. The reward for such a charity must come entirely from the business, so that is where it should be charged. These few examples may bring to you many others.

Loans—Supposing a dentist with outside interests loads up on investments depleting the cash resources of his business, he may borrow. If

the borrowed money is used in the business and the interest thereon is described as on a loan made for the requirements of the business, such interest is an allowable charge against this business income. If the loan is used for the purpose of making outside investments, then the interest thereon would be chargeable only against whatever income resulted from such of these investments. It all depends on which one of the two you happen to use the borrowed money for, so that it becomes important how expenditures are described on one's tax return.

All Rest-accounts are reserves. They are created by charges against profits. The Dominion ruling is that those charges which create impaired Reserves are allowable as an Exemption. The question of impaired or unimpaired reserves is rather technical. It becomes very difficult in many cases to distinguish between them. To save time I will explain the two, if requested, later in the evening. (The Dominion once allowed me to create a Rest Fund to provide for moving in the future year.)

The cost of dental education (to secure license may be allowed in its entirety if the amount is spread over five years, unless the expenditure was made many years prior to the taxation period. Any annual charge necessary to be made in order to give one the right to do business is properly chargeable. This includes taxes and impositions of all sorts. The Dominion will not exempt income taxes, however, no matter to whom they are paid. If the amount is grouped under taxes, as a rule, it will be passed by the authorities without question.

If a young man borrows money to put himself through college, the interest on such a loan is not a proper deduction from income, but if, after he is in practice, he makes a new loan, using the proceeds to pay off the old, the interest on the new loan may be chargeable as an expense, provided the loan is described as a new loan made, and used for the purpose of financing the business.

SECONDARY INCOME

There is a concept held by Dominion authorities that when a dentist has interests apart from his profession, such as investments, his income must be regarded as Primary and Secondary. The Primary income is that from his profession, the secondary is that from his outside interests, which are grouped in the minds of the tax officials as one set of activities. As in the Primary income, so in the Secondary, all expenses of that class of income should be deducted from the total of that income, so that if a man has several pieces of real estate, some of which may bring him revenue and some not, the total expenses may be deducted from such total income.

In this way, the tax against vacant lots, held say in Manitoba, may be deducted from the rentals received from property held, say in Montreal. This is an important point and one which is often missed. And of course, the same rules respecting deductions on Primary income apply to Secondary income such as depreciation, taxes, bad debts, etc. Remember to group all secondary income and deductions. This is an advantage. You may, for example, run a small farm as a hobby, and lose the usual amount lost on such hobbies. Put that loss down in the lost section of your Dominion Income return sheet under "Other Deductions," filing also the special form for farmers. On the Dominion return sheet, all items below No. 5 on income side are offset by all items below No. 12 on deductions side.

EXEMPTIONS

Recoveries on insurance or any amount received in settlement of damages; fire insurance premiums; income from rents; commissions paid for the collection of rents; expenses and repairs on rented property are exempt.

Although all income should be reported, some is not taxable, such as a gift or legacy, or profit on the disposal of stocks or bonds or property held for investment; also Victory Bonds' interest, by which is meant war loans of certain issue.

All dividends received from a Canadian company, which itself is liable for income tax, are exempt from the normal tax. Such dividends do not include Government, Municipal or other bonds. An increase in capital is not taxable.

Having arrived at the net income, further exemptions are: For each dependent child of any parentage under 18 years of age, \$500.00 is allowed to any tax payer, married or single. In addition, \$1,000.00 is allowed a single person and \$2,000.00 to a married person. Single persons are allowed \$2,000.00 if they have dependent upon them any of the following: one or more parents, one or more grandparents, one or more daughters, one or more sisters, one or more sons under 21 years of age, one or more brothers under 21 years of age; one or more sons, any age; or one or more brothers, any age, incapable of self-support. By dependent is meant substantially dependent. A man is married in the eyes of the Dominion Tax office unless his wife is either dead or divorced, even though they are separated and not living together. The question of whether or not alimony is paid does not enter into the question. Wife and husband may each claim \$2,000.00 exemption, but only one may claim for the children. If the marital status changes during the year, or if a child becomes over 18 during the year, or one is born within the year, the exemption is the maximum allowable income condition which existed at any time during that year. In other words, if a man marries on December 31st, he gets \$2,000.00 exemption.

Fiscal period as opposed to *Calendar Year*—The income shown should be the income made during the calendar year, but frequently the fiscal period of a professional man does not end December 31st. In such event, it is not necessary to compute the income from business from the calendar year. Income from the business or profession for the fiscal year should be shown for whatever fiscal year ended within the calendar year. To illustrate: A dentist closes his books July 31st each year. His income for 1925 would be (1st) the net income from his business (or primary income) for 12 months ending July 31st, plus (2nd) income from sources outside of his business (or secondary income) for the calendar year.

RE TORONTO CITY

In the City returns, the form is such that it is left to the tax payer to give the amount of the net profits in his business without the details of gross income and deductions.

As in the Dominion, the Primary and Secondary incomes must be computed separately, not grouped.

According to the best authorities the deductions would be the same as in the Dominion.

According to the City Auditor, interest on borrowed money is a questionable deduction.

Bad debts are allowed on a revenue and expense return. City authorities can quote no ruling on depreciation for dentists. However, they allow it in other businesses, so I suppose we may take it as allowable to us. Repairs to furniture and equipment are allowed.

City Auditors say they will allow expense of legitimate advertising.

Paying Back Cost of Dental Education—One of the highest City Auditors (Mr. Nixon) says to use your own discretion on charging interest on this cost, but where money was borrowed to put one through college, repayments are certainly exempt.

The depreciation of one's license in that it each year has a lesser time to run, is, according to the City, questionable.

The question of Rest accounts was not considered by the City. It was possibly beyond the understanding of the man I discussed it with.

Benefits from insurance and from settlement of claims—income from rents in Ontario (this does not include interest on mortgages); income from gift, or legacy, or profit on disposal of stock or bonds or property held for investment, and dividends on mining stocks are all exempt.

The City exempts, from personal earnings, or primary income, \$2,000.00 for householders and \$1,000.00 for non-householders. In addition to the \$2,000.00, \$400.00 is allowed for each child, or dependent father and mother (but not for mother-in-law). Income from investments are exempt to the amount of \$800.00, providing income from all sources does not exceed \$1,500.00. Income from investments to the amount of \$2,000.00 is exempt in the case of a widow of any age, or of anyone over the age of 60. If the income is over \$2,000.00 there is no exemption at all. The dentist is exempt from the City taxes to the amount of his business tax, which is based on 50% of the assessed value of premises occupied. If he practices in a residence, the business assessment works out at 25% of total assessment of residence. They allow the fiscal year ending any month of the year.

There is no money provided by the City to rebate taxes overpaid, and the Courts will not order their return.

Unfortunately the City Auditors are not themselves unanimous as regards what are proper deductions and exemptions, and unfortunately the official in charge of the income branch is rather antagonistic to the tax payer. Probably he is so accustomed to persons trying to evade payment of a just amount that it has become second nature to him to be opposed to applications for deductions. His Chief, Mr. Nixon, is very reasonable indeed, and I, myself, always go to him and have never had any trouble, but have found him even more than reasonable. Possibly, if a number of dentists appealed to Mr. Nixon himself, he might influence the head of the Income Department to be more reasonable, for they do not wish tax payers to be appealing to the Court of Revision.

The part of the Municipal Act dealing with deductions is very short, which means that much is left to the judgment of the tax officer and tax payer.

The City has no legal authority to go in and examine your books.

An application to the Dominion for refunds of any over-payment must be made within 12 months of date of tax payer's last payment, or within 12 months from receipt of tax bill, whichever is the later.

I have tried to stick to the point of allowable deductions, trying to emphasize some of those items which will help the dentists to keep their tax at a minimum. It is hard to understand, however, that no matter what the premises it is impossible to say what the income tax officials will, or will not, allow. Even on deductions you would fancy there would be no questions. Tax payers all over the Dominion, as well as the Auditors themselves, would like to experience consistency, but so far as is apparent they are not going to get it.

Do not imagine you will get all the deductions or exemptions mentioned in this paper. Not that the information contained herein is not authentic, for none of these deductions or exemptions are merely my own opinion. I got them from the highest officials in the City Hall, from different Auditors well up in the Dominion Income Tax Act, and also from a Mr. Eakins, in the C. P. R. Building, who was for many years in the Dominion Income Tax service, and is now a tax adjuster. He is probably the best authority in the City of Toronto in both Dominion and City Income tax questions. The deductions and exemptions quoted have all been allowed at one time or another, some by some officials, and some by others. If they have been allowed once, you are well advised to try for them again.

It is not the privilege of a Dental Society to advise the individual dentist all the items he should pay income on. That is a private business matter between the authorities and the dentist. It might, however, do no harm to any individual, and be a great advantage to the profession, if the whole subject of deductions for dentists was argued to a satisfactory conclusion at Ottawa, the dentists being represented by the most competent counsel. For there is no doubt that the dentists are not getting justice regarding deductions. Until the arguments are properly presented, the tax authorities will not be competent to understand the dentists' side of the controversy. As to whether the decisions arrived at at such a conference should be published is also another question, in that maybe the society would be doing an injury to the individual who is not putting in a return which is not correct, but which is according to his conscience, and his knowledge of the subject, and which is no doubt fully as correct as the taxpayers in other lines of business. That is, it is a question if the society has any more right to educate the dentist in what he should pay than they have to educate anyone else.

In conclusion, if a dentist is supposed merely to show net income from his business or profession and to support this with proper figures, it almost means that there must be a proper Audit by some competent Auditor, and such Audit will necessarily include Profit and Loss Statements in which the various items of income or expenses are classified. The time is long gone when a dentist can plan his system of bookkeeping. Let the shoemaker stick to his Last. It is the function of the Auditor to so prepare the dentist's system of accounts, that such bookkeeping will be readily understood by the dentist. As the secret of success in all business is to retain the maximum time and energy in the productive part of the business, so personally, it seems good business to spend whatever amount is necessary for competent accounting.

This paper is unfortunately too short to cover the subject fully. Much has been left out. The points mentioned are some of those which should be of more or less interest to an audience such as this.

What Can the Dentist Do for Those Seeking His Services for Caries and Root Canal Treatment?

If decay has once begun the only treatment and the only means of preventing other decays is to remove the diseased tissue and fill the cavity.

The chief outward defense against infection of the human being is the skin, and in the alimentary canal it is the mucous membrane. Once these defences are broken dependence for resistance must be upon minute resisting bodies in the circulating systems. If then a tooth decays until its central portion, the pulp, has been reached, the main defence has been broken through. The central part of the tooth has a canal filled with vital tissue which communicates directly with the general circulation of the body. When this tissue, known as the pulp, becomes infected, or dies, which it usually does if diseased, it being in contact with the blood stream deep in the centre of the jaw bone, it has a direct opportunity to cause general systemic diseases.

When a tooth becomes so decayed that there is severe pain it is a diseased tooth and all the diseased portions should be removed. This may involve the removal of the whole tooth, or perhaps only the pulp. It takes very fine discrimination on the part of a skilled dentist to determine which method of practice should be followed.

The extent of the loss of the crown of the tooth by decay or accident is not a determining cause for extraction. The determining factor is,—can the root be kept in the jaw free from disease? The crown can be readily restored by filling, or an artificial crown. Experience has taught the dental profession that a tooth root which has lost its pulp some years since has been the seat of an acute infection in which the soft tissues have swollen extensively, has a dark or dead gray color, or has not been bitten upon for some time, is usually so infected that its further retention is doubtful even in a healthy person and should be removed if there are any indications of general symptoms that might be caused by focal infection or if there is a family history of chronic disease, though there are no symptoms of disease.

Notwithstanding all the advance which has been made in the mechanical side of dentistry during the past few years it has been proven beyond doubt that there are many teeth of such a form and position in the mouth that the pulp cannot be all removed from them nor roots filled with any substance which will keep bacteria out. Dependence in a large measure must be placed in nature's internal defences even when all dead pulp has been removed and the best possible mechanical defence made. Thus it would seem reasonable that before a dentist should undertake to destroy a dental pulp, or treat an infected root canal, that he should take into consideration the family history, the personal history, and the dental history of the patient, the anatomical form and position of the tooth and its value to the patient.

Dental skill to-day is sufficient to destroy the vitality of a dental pulp, remove it and fill the root canal of any of the normal single rooted anterior teeth, and most of the bicuspid, but very few of the molars sufficiently well to prevent infection or systemic diseases in all cases. But in cases of long standing infection the chances are remote of success. After the best possible operations are made dependence must be placed on the internal

defences of the patient to maintain a healthy condition in the face of a foreign substance in contact with vital tissue at the end of the root of the tooth.

More human teeth are disabled and lost by diseases of the gums than by all other causes. It is not fully understood what the essential or primary causes are. Some authorities look upon chronic diseases of the gums as due to filth.

Multi-rooted teeth having neither apical infection nor absorption, but having lost the alveolar process in the bifurcation of the roots are not, usually, saveable teeth. These teeth should possess as a general rule, at least one-third of the original periodontal membrane and should have the alveolar process in the bifurcations of the roots intact to be successfully treated.

In special cases of upper molars where one root is severely involved and the other two are not, the tooth may be rendered useful and compatible with the tissues, following proper root canal filling, by the amputation of the hopeless root together with a proportionate amount of the crown surface, with occlusion balanced on remaining roots.

In the second class of cases where radiographs show definite areas of rarefaction at the apices of tooth roots it is usually considered that it is to the advantage of the health of the patient to have the teeth extracted and the socket curetted. This is particularly true where clinical symptoms, either local or systemic, give indications of infections.

"Novocain is the best of all local anaesthetics at the present available. It is almost free from poisonous properties, either local or general, unless used in very strong solutions of 10 per cent. or more" (Bloomfield). "Large quantities of solution of 1 per cent. or under can be injected into tissues without damaging them and without producing general symptoms. A solution of 2 per cent. can be used freely in the sacral canal if the injection is made slowly. I (Bloomfield) have injected 180 c.c.—6 1/3 ounces of a 2 per cent. solution into a sacral canal with no resulting symptoms except excellent anaesthesia extending upward as far as the skin of the face." ^{4 1 10} 32 ounces of a 1.2 grs. to the ounce solution of novocain or 38.4 grains of novocain were used without any disturbance. (Smith.) ¹¹ Eggleston and Hatcher found that novocain was the lowest in the toxicity index. Eight or nine well known anaesthetics were experimented with on animals, (*Journ. of Pharmacology and Experimental Therapeutics*, August, 1919.)

Alberta will again present to its members a circuit clinic as they did last year.

It is believed that the Dominion Dental Council of Canada will assist the Dental Board of Alberta if necessary to overcome illegal practise in the province.

Dr. B. C. Richards, Victoria, B. C., addressed the Knights of the Round Table on the care of children's teeth. He directed attention to influence good baby teeth have on the permanent to follow.

Some Necessary Expansions in the Teaching of Dentistry

A. W. THORNTON, D.D.S., DEAN, DENTAL FACULTY,
MCGILL UNIVERSITY.

Read before the Canadian Dental Association.

Knowledge comes, but wisdom lingers,
All things here are out of joint,
Knowledge comes, but, slowly, s'owly,
Creeping on from point to point.

It might almost be supposed that, when Tennyson wrote these words, he had in mind *the profession of Dentistry*. But terms like near and far, long and short, fast and slow, when applied to *time*, must of necessity, be relative in meaning. Many of the pioneers in dentistry have fallen asleep, but so short a time has elapsed since they were with us in the flesh, that we find it difficult to differentiate between the past and the present, the old and the new, the modern and the antiquated.

In an old minute book of McGill University, under date of December twenty-third, 1903, I found the following resolution—"That inasmuch as the profession of Dentistry is at the best only a surgical special'ty, it is undesirable that the University should grant the Doctor's degree in connection therewith."

A more illuminating feature of the status of dentistry, in McGill University in 1903, is seen in the following series of resolutions:

(1) That it is expedient that the University afford the facilities for the instruction of those seeking to enter the dental profession.

(2) That to this end there be established a dental department of the Faculty of Medicine, which shall undertake this instruction.

(3) That certain of the Professors of the existing Dental College of the Province (for the present not more than three in number) who are not members of the teaching staffs of other universities, be appointed by the Governors, Professors in their subjects, in the Dental Department of the Faculty of Medicine.

(4) That all Professors engaged in teaching Dental Students shall, together, form the Executive of the Dental Department, of which the Dean of the Faculty of Medicine shall be ex-officio Chairman.

(5) That the Executive of the Dental Department, subject to the approval of the Faculty of Medicine, shall be responsible for determining the course of study and examinations of the Dental Students, that it shall, as a body, be responsible for the expenses and debts contracted by the Department, the responsibility of individual members of the Executive, being a subject of mutual agreement between members of that Executive.

These resolutions were passed only twenty-one years ago.

Today McGill University, in common with many of the Universities of the United States and Canada, has a Faculty of Dentistry with rights, privileges and responsibilities, similar to those of the other faculties.

The teaching Clinic of the University is, in common with Medicine, carried on in the Montreal General Hospital, where again Dentistry has the same standing and recognition and must assume the same relationship and responsibilities as the Faculty of Medicine in carrying on the work of the Hospital.

At the present time, the Dental Surgeon in Charge in the Hospital is a member of the Board of Governors, and is a member also of the Medical Board of the Hospital. These positions are not, however, ex-officio.

What is true concerning the teaching of Dentistry in McGill is probably true of many of the Dental Faculties, schools and colleges of North America.

And now the question arises, "have we gone far enough?"

Many men living today can remember the time of *indentures*, when prospective dentists were compelled by law to serve some time, from one to two years in a dental office, under instruction, with a licensed dentist. That time, of course, has gone never to return. Has Dentistry today reached a point, when everything coming under that specific term, can be taught, and learned in the ordinary four year course of an ordinary Dental College.

I am not unmindful of the fact that one year, or two years of university training are demanded today by many Dental Colleges as entrance requirement, and this must be followed by four years of academic work in the Faculty of Dentistry prior to graduation.

But even with this four years' training following two years in pre-dental university work is a graduate today prepared to go out and practice Operative Dentistry, Prosthetic Dentistry, Exodontia, Orthodontia, Prosthodontia, Periodontia and all the other "dontias" which have been, or may be in the future, grafted on to the already overburdened tree of Dental Knowledge?

I think I am safe in answering that question with an emphatic "No."

Dentistry is no longer a matter of extracting teeth and supplying artificial dentures. "Nature's great incubator" the mouth, has assumed an importance, in connection with the general health, that can neither be ignored nor neglected.

Focal infection from the mouth is too common, and the results from such infection too well known and of too serious a nature to be overlooked or underestimated.

These specialties are here to stay. Why? Because, primarily, it is physically and mentally impossible to cover all the subjects now included in a Dental curriculum and to give to the students such a knowledge of these subjects as to enable them to go out and engage in any or all of these subjects, and expect to give the standard of service which a patient has a right to expect. As well might you expect a medical student to be prepared, immediately after graduating, to engage in major surgical operations or to possess that fund of knowledge which comes to professional men only after years of experience. But there is a further reason why specializing in dentistry is here to stay. We are living in a luxurious age, and people demand and are willing to pay for a high standard of Dental Service as part of a high standard of living.

There is still another reason. Specialists in all professional callings are well paid for the service which they render. It is then a case of "the loadstone and the magnet."

There is another and very cogent reason why the specialties are a permanent part of our professional life. The man in general practice feels that his training, his office, his equipment, his assistant, cannot at one and the same time lend themselves to general practice and the successful conduct of a special line of work also.

The question then arises, must the general practitioner never enter the field of the specialist? Must specialists be born and not made?

Let me answer these questions by saying that no man can become a *specialist* in the highest and best sense of that word who has not passed through the training school of general practice. What course then should a man pursue who desires to devote his energies to some special work? We assume, of course, that such a man has taken the regular course in a reputable school and has familiarized himself with the problems of general practice and the ethical relationship between such general practice and the specialty he desires to follow.

Two courses are open to such a man. The first is to go to some reputable school and follow such a course of instruction that will fit him for intelligent service in the special line of work he purposes following. I know that just at this point I am treading on dangerous ground. If you will consult the *Dental Cosmos* of January, 1924, you will find that this very question is pretty fully discussed, with perhaps more force than logic. Permit me to draw your attention to a few of the statements in the article to which reference has been made.

This paper has been written with a view to giving to the general practitioner a clearer conception and broader vista of those complicated and obscure procedures which are generally classed as minor oral surgery.

SPECIALIZATION AND ITS FUTURE.—With the broadening of dental science from the purely mechanical handicraft of the past to the present evolution of a multitude of specialties that have sprung up like mushrooms on the dental horizon, ramifying and anatomising as they do with biological, chemical and medical sciences; adding to this the frantic and persistent knocking of the medical profession at our door to assist them in diagnosing and eradicating diseases of the mouth that have been found to have such great potentialities in undermining their patient's health and vital forces, the dental practitioner has suddenly awakened to the realization of the fact that he is lamentably and totally unprepared to grapple with the situation.

This condition of affairs has given rise to the creation of specialists in different branches of dentistry to whom dentists may in their despair apply for advice and assistance.

This tendency for specialization will grow in intensity as the years roll by, until the present generation of dentists and the many antiquated commercial college factories of the present, with their antiquated staffs of instructors, will disappear from the arena and a new type of oral specialist, the stomatologist, trained on a broader basis in all medical and biological sciences, will be created to supplant them. Until then no medical or dental practitioner can well afford to practice his profession without at least keeping himself informed of those possibilities that the specialty of oral surgery may offer to him, both in improving on the nature and quality of the services rendered and results obtained, as well as the better remuneration to which such services may justly entitle him.

FUNCTION OF ORAL SURGEON.—The oral surgeon is now the connecting medium, the link in the chain of the hitherto separate and distinct professions of medicine and dentistry. He is the advance guard to whom both professions are looking as the one who is best qualified to diagnose and treat oral and maxillary lesions that may have serious systemic or pathological effects upon their suffering patients. It is the oral surgeon that will ultimately lead the two professions into their logical relationship for the benefit of both of them.

The impetus that the focal infection theory has obtained in both professions within recent years has been the most important single factor for the most remarkable transformation that has taken place and has molded both professions into a better and closer understanding of each other's problems and aspirations.

The remarkable work done by dentists and oral surgeons during the war, in plastic and oral surgery of the face and maxillae, has made the medical profession realize its mistaken past attitude of aloofness and swell-headedness, and has made them cognizant of the urgent necessity of associating themselves with and consulting dental specialists in the treatment of all oral affections and injuries coincident to modern warfare.

The practice of oral surgery is such a vast field, ramifying as it does with so many allied branches, like pathology, embryology, bacteriology, radiography, anaesthesia, etc., that it will be only possible for me to scratch the surface and lay stress upon these points that I find from my daily contact with the general practitioner he is most deficient in, and in which he is most in need of information.

IGNORANCE OF PHYSICIANS OF DENTAL PATHOLOGY.—The writer had a multitude of cases referred to him by physicians for the surgical treatment of periodontoclasia in an effort to improve the declining health of their patients; entirely failing to suspect that these patients may suffer from some form of nephritis or diabetes which might have been responsible for the condition of pyorrhea and the systemic disturbances complained of, as was proven later by urinalysis.

Many physicians, including some of the best internists, display lamentable ignorance in dental pathology by ordering the removal of every tooth that has a gold crown on it, as if the gold, *per se*, had disease-producing potentialities rather than the state of health of the pulp and the periodontium, as revealed by radiography, vitality tests and clinical examination.

IGNORANCE OF DENTISTS OF DENTAL PATHOLOGY.—Neither are dentists better in many respects. Very often I get instructions to operate on pyorrhea surgically, to lance an abscess or remove an impacted tooth in mouths afflicted with Vincent's infection. To operate on these cases would end disastrously.

CO-OPERATION OF THE PHYSICIAN AND THE DENTIST ESSENTIAL.—It is high time that the dentist should familiarize himself with medical subjects in order to be able to diagnose cases promptly before referring them to the specialist for treatment; particularly is this true in cases of syphilis and neoplasm, which the dentist has the best opportunity to observe in their incipient stages, before these unfortunates are forced to consult a physician, after great harm has already been done.

Conversely, it is about time for physicians to familiarize themselves with dental pathology and methods employed by the dentist to diagnose and eradicate diseases of the teeth and the maxillae, and to recognize the fact

that the physician knows very little about dental matters and problems that require years of special training to master, and, therefore, leave all such matters to the knowledge and judgment of the dentist, who is properly qualified to handle these cases.

The other course is to go to the office of some men already engaged as a specialist in the line of work in which instruction and further training is sought. There is, perhaps, another method of fitting one's self to become a full fledged specialist. This latter method is to form a class and have a specialist come to your town or city and give a course of instruction, varying in length from twenty-four hours to a week.

But notwithstanding all that has been said of "commercial college factories," their antiquated staff of instructors, the general ignorance of dentists and physicians as a body, and the prophecy that "a new type of oral specialist, the stomatologist trained on a broader basis in all medical and biological sciences, will be created to supplant them," I still think that a hospital with its trained staff of medical men, surgeons, pathologists, and other specialists is the best place properly to equip one's self for service, differing from that usually spoken of as "general practice." Dentistry has grown quickly, more quickly perhaps than the institutions prepared to train men, in "the multitude of specialties that have sprung up like mushrooms on the dental horizon."

There is a body of men in this country at the present time of whom perhaps not very much is heard, but who, during the last twenty-five years, have wielded a tremendous influence on Dental Education, both in the United States and Canada.

This corporate body is known as the American Association of Dental Schools. Every reputable Dental School in either of these two countries is, or may be, a member of this organization. No other body of men is so well qualified to determine the manner in which post-graduate work in dentistry to fit men for special service should be carried on. This body of men has no axe to grind and no selfish purpose to serve.

But the men constituting this body do know the scholastic standing of the men in the various schools and colleges and the facilities which these educational institutions possess to properly fit men for any or all of the recognized specialties in Dentistry.

In the past certain individuals, possessing or claiming to possess special knowledge along certain lines, have gone from city to city giving so-called special courses, said courses lasting from half a day to a week. Some good has resulted from such courses, but great disappointment has, as might be expected, followed many of such efforts. It is still true that "there is no royal road to learning."

I am persuaded that the time has now come when post-graduate as well as graduate training should be undertaken only by such institutions or individuals as have the imprimatur of some institution or body of men whose endorsement will be a guarantee of fitness to properly perform the work undertaken.

Fixed Bridge Work

HART J. GOSLEE, D.D.S., CHICAGO

The conservation, promotion and maintenance of health must be the fundamental consideration in the replacement of missing teeth at all times, and by any method, and the application of any method which does not involve and include favorable possibilities in these directions is to be regarded as approaching the border-line of malpractice. In the application of fixed bridgework, therefore, the conservation of the health of the supporting natural teeth is the first consideration, and hygiene and sanitation follow closely as basic requirements.

Some injury to the supporting natural teeth must follow the replacement of missing teeth by any method, irrespective of whether the restoration is of the fixed or removable type, but unless the partial immobilization of the supporting natural teeth which follows the application of fixed bridgework, in itself, is detrimental to the health and vitality of the teeth so treated, then no greater injury results, necessarily, from one method than from another. Since complete and absolute immobilization of the teeth, practically, is impossible, and since the investing and environmental tissues will tolerate partial immobilization, fixed bridgework is a rational and useful method of supplying missing teeth, and its application often may be indicated as the choice of evils, or as the lesser evil.

Clinical evidence, extending over a period of many years, indicates, beyond a reasonable doubt, that well-designed and well-built, and properly adapted fixed bridgework does not condemn teeth, necessarily, nor condemn the vitality of their pulps, nor invite a pathological condition.

It is noteworthy, too, that pulpless teeth are tolerated under these conditions quite as well as are teeth having vital pulps; and also, that partial immobilization, instead of insuring an impairment of the vitality and usefulness, and the ultimate loss of teeth so treated, on the contrary frequently adds to their usefulness and longevity. Indeed, teeth which have lost the support and protection previously afforded by adjacent and opposing teeth, where the investing tissues are not pathological, but are of low tonicity, and where usefulness and comfort are negative, often may be made comfortable and serviceable for many years by stabilizing them. In many cases of this kind, partial immobilization is not only not injurious and not destructive, but is a positive restorative measure; therefore, while it cannot be claimed that a physiologically ideal condition follows the application of fixed bridgework, still it is evident that nature does, and will, tolerate a partial immobilization of the natural teeth, and that teeth so immobilized, with all other conditions made favorable, may, and do, remain healthy and serviceable for many years.

For the purpose of epitomizing my views upon the subject of fixed bridgework, and of presenting them in a brief and concise manner. I have formulated the following questions, and offer the following answers to each:

First: Is Fixed Bridgework a Useful Method of Procedure?—When indicated, fixed bridgework is not only a useful method of procedure, but is a safe, rational and indispensable method of supplying missing teeth.

These facts have been proved and are to be proved by clinical observation.

Second: Is the Partial Immobilization of Natural Teeth Injurious?—Clinical observation, extending over a period of many years, proves conclusively that the partial immobilization of natural teeth is not injurious, necessarily, either to their health or their longevity.

Third: When and Where Should Fixed Bridgework be Used?—Fixed bridgework is indicated and may be used successfully whenever and wherever the application may be made under favorable conditions, and within reasonable limitations.

Favorable conditions mean that health must obtain, primarily, in all teeth which are to be used as abutments, and reasonable limitations means that a knowledge of the basic laws of mechanics, or of dynamics in particular, must obtain and must be applied in each and every case. Irrespective of however well fixed bridgework may be built and adapted, therefore, no case will be successful unless sound mechanical principles are observed throughout its construction and application.

The ideal indications for the use of fixed bridgework embrace: First, those cases where only a few teeth are to be replaced in a single fixture; and, second, those cases where teeth of similar functional activities are involved in the same fixture. While it is not imperative that teeth of similar functional activities should be involved and included in a single fixture, yet a more typical physiological condition obtains, undoubtedly, whenever the normal functioning movement of the supporting natural teeth is restricted to a minimum extent, rather than to a maximum extent.

The distribution of the abutment teeth is always important and, usually, the number of abutment teeth should be equivalent to the number of missing teeth to be replaced. This rule is not imperative, however, because the strength of the abutment teeth in their relation to the requirements of stress is the controlling factor in all cases. Clinical evidence proves, conclusively, that natural teeth will withstand, and will tolerate, a burden of stress in excess of normal functional demands. But the extent to which they may be expected to assume this additional burden, and the duration of expected toleration, must be within the limitations of reason.

Fourth: When and Where is Fixed Bridgework Contra-indicated?—Fixed bridgework is contra-indicated in all cases in which any great number of missing teeth are to be replaced, and where the distribution, and the health, of the remaining natural teeth is not favorable to the requirements of stress and sanitation. Thus it will be observed that where the field of usefulness of fixed bridgework ends, the field of usefulness of removable bridgework begins; and where the field of usefulness of fixed bridgework ends, removable bridgework is not only indicated, but is demanded.

Fifth: What are the Relative and Comparative Advantages obtaining from the use of Fixed Bridgework?—In the replacement of missing teeth by any method the aim should be—first, to obtain a maximum efficiency in the restoration of function; and, second, to obtain this maximum of efficiency with a minimum of injury to the supporting natural teeth. Functional efficiency increases with stability, and decreases with mobility. Hence, in proportion as any type of restoration is stabilized in functioning, its efficiency will be increased. Definite and positive fixation, therefore, insures the maximum of stability and efficiency. In addition to the important features of increased efficiency, the modern methods of attachment for fixed bridgework require less destruction of the supporting natural teeth than is required for any type of removable bridgework, other than clasps.

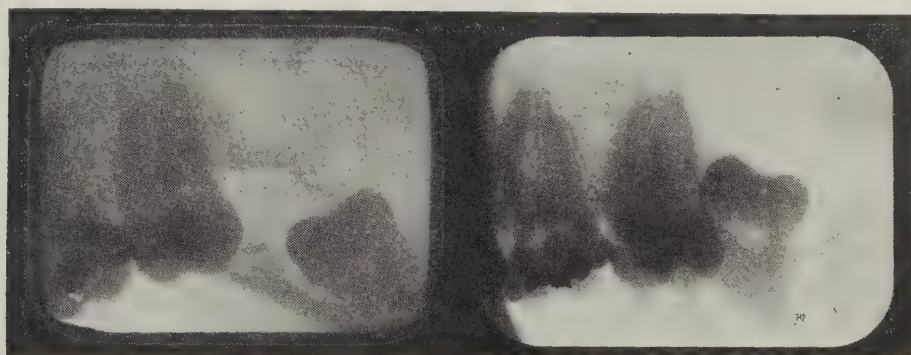
The method of attachment to the supporting teeth is the vital factor in the successful application of fixed bridgework in all cases and at all times. Where the entire crown of the supporting tooth *must be restored*, no other procedure will answer the purpose so well as gold telescope crowns upon the molar teeth, and some type of dowel crown having a full or partial band *which fits* upon the anterior teeth; but when the remaining natural crown may be utilized, and pulp vitality conserved, which is desirable whenever possible, some type of partial crown may and should be used in preference to full crown restorations.

While many types of partial crown attachments are more or less generally applicable, and may be used successfully, the particular type of attachment suggested by Dr. R. E. MacBoyle has a wide range of usefulness as applied to the crowns of molar teeth, while the partial crown, commonly designated as the "three-quarter" crown, and the "pin-ledge" attachment suggested by Dr. James Kendall Burgess, have the widest range of usefulness as applied to the anterior teeth.

In conclusion, I desire to make the definite and positive statement that after nearly thirty years of extended practice, conscientious teaching, and keen observation, it is my firm conviction that the propaganda of a small coterie of men whom I must designate as alarmists, condemning *fixed* bridgework, is nothing more nor less than the propaganda of commercialism; and that when fixed bridgework may be built along the lines herewith suggested, with all other oral conditions made likewise favorable, the pronouncement "*orally O.K.*" may accompany its application.

Editor DOMINION DENTAL JOURNAL,
Toronto, Ontario.

Dear Doctor,—Am enclosing a couple of X-Rays for your opinion. What way would you suggest as the best to have the tooth removed? Would the removal of the second molar first lessen the after pain enough to



Taken 5 years Previous

December, 1925

compensate for the loss of the second molar? Is the third molar supplied with nerves? If not, what force brought the tooth to its present position? Also if left would it continue to grow down?

The patient was formerly a boy in my office. He is now 23 years old.

It is such an unusual case that I thought you might be interested in it, and that I might get some good advice.

Yours truly,

V. LEROY HEATH.

(Editor) Will some reader answer the questions asked?

SOCIETIES

Officers of the Academy of Dentistry, Toronto

The election of officers was announced as follows: President, Dr. W. G. Spaulding, D.D.S.; Vice-President, Dr. H. G. Robb; Secretary, Dr. S. S. Crouch; Treasurer, R. S. Woollatt; Councillors, Dr. F. Risdon, Dr. A. S. Thomson, Dr. G. V. Fisk and Dr. H. A. Ross. The speaker of the evening was introduced by Dr. J. E. McMulkin.

Alberta Dental Board

Minutes of the meeting of the Board of Directors of the Alberta Dental Association, held at the Macdonald Hotel, Edmonton, Monday, January 4th, 1926.

Meeting called to order at 9 a.m. Dr. A. B. Mason in the chair. Present: Dr. A. B. Mason, president; Dr. M. L. Moore, vice-president; Dr. John W. Clay, D.D.C. representative; Dr. H. L. Coursier, Dr. L. T. Allen; Dr. Leslie McIntyre, secretary. (Dr. Henninger absent through illness).

The minutes of the last regular Board meeting were read. On motion of Dr. Moore, seconded by Dr. Allen, the minutes were adopted.

Moved by Dr. Clay, seconded by Dr. Moore, that this Board validate the actions and accept the recommendations of the Alberta Dental Association from their annual meeting of last July. Carried.

Moved by Dr. Moore, seconded by Dr. Clay, that Dr. A. B. Mason and Dr. Leslie McIntyre be a committee to interview Mr. Race of Alberta University and explain to him our meaning regarding our motion that Class "A" schools be regarded as the proper class acceptable in Alberta. Carried.

Moved by Dr. Leslie McIntyre, seconded by Dr. Clay: Graduates from Dental Schools in the Province of Quebec are free to take any Canadian Provincial Dental Board examination and obtain licenses to practice, while the Dental Act of the province of Quebec absolutely forbids the admission to examination or practice of graduates of other than Laval or McGill Dental Colleges. Since the students of Alberta University Dental Department on completion of their course in any Canadian University will not be allowed to enter the province of Quebec at all, we suggest that, to equalize the state of affairs, the Senate of the University of Alberta use the power it has under the Alberta Dental Act, and in future refuse to extend the privileges of our Dental Board examinations to graduates of Dental Schools in the province of Quebec. This does not refer to dental courses, but to prohibitive dental legislation passed by the Dental Board. Carried.

Moved by Dr. Clay, seconded by Dr. Coursier, that the Secretary send a copy of this resolution to the Secretary of all other Provincial Dental Boards, with a request for co-operation along similar lines. Carried.

Moved by Dr. Moore, seconded by Dr. Allen, that Dr. A. B. Mason be re-appointed to a two-year term as representative to the Senate of Alberta University. Carried.

Moved by Dr. Allen, seconded by Dr. Moore, that Dr. Clay be re-appointed for a two-year term as representative on the Dominion Dental Council. Carried.

Moved by Dr. Moore, seconded by Dr. Coursier, that the secretary's report re Lee's case be accepted, and that he be instructed to proceed with the case; as well, if necessary, the president be empowered to call an emergency meeting to decide on further procedure. Carried.

At this point Dr. Clay read several offers of financial assistance received from the Secretaries of Dental Boards of other provinces; as well, discussion took place regarding the D. D. C. contributing to the cost of the case if it went beyond our Provincial Courts. No action was taken till the case should reach that stage.

Moved by Dr. Moore, seconded by Dr. Clay, that the secretary be instructed to request Mr. Patterson to consult and co-operate with Mr. C. C. McCaul as to the next appeal before the Appellate Court of Alberta in the Lee's case. Carried.

Meeting adjourned.

2 P. M.

Adjourned meeting called to order at 2 p.m. by President, Dr. A. B. Mason.

A talk over the registration system in vogue in Alberta drew out the following:

Moved by Dr. Moore, seconded by Dr. Coursier, that Dr. Mason appoint a committee to draft a new certificate of membership form and present it to our next meeting. Carried.

Moved by Dr. Clay, seconded by Dr. Moore, that Dr. Mason appoint a committee to watch legislation at the next meeting of the Provincial Parliament. Carried.

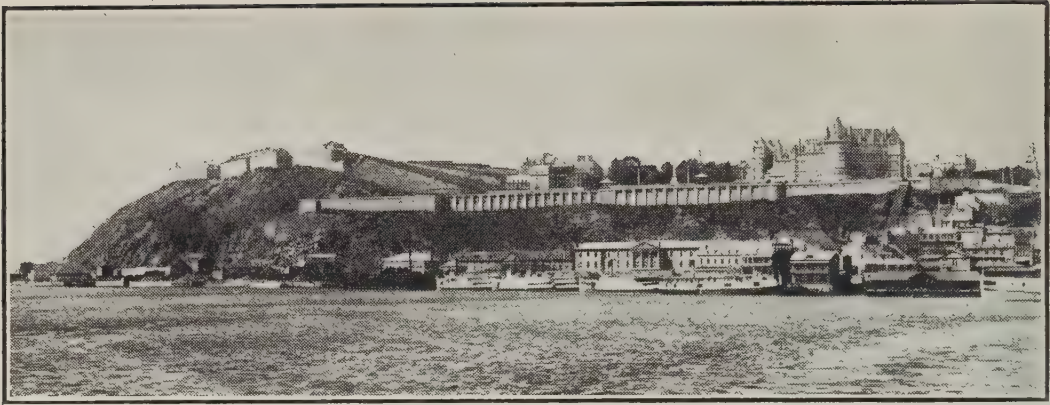
Dr. Mason appointed Dr. Eldon Jamieson, Dr. M. A. McIntyre and Dr. H. F. Whittaker and Dr. J. Stewart.

Moved by Dr. Clay, seconded by Dr. Allen, that the president, Dr. Mason, and the secretary be a committee with power to add, to put on a Circuit Clinic Plan similar to that of last year, the Board to guarantee the expense incurred up to \$2,000.00. Carried.

Moved by Dr. Allen, seconded by Dr. Coursier, that we, the Board of Directors of the Alberta Dental Association, instruct our D. D. C. representative that we feel that the D. D. C. should be incorporated under a Dominion Act of Parliament and be built up into a stronger and more useful organization to become of greater value as a general licensing body for our Dominion. Carried.

A discussion over the Western Canada Dental Association resulted in the Board deciding to await the result of its suggestion as to the financing of the new Society.

Moved by Dr. Allen, seconded by Dr. Coursier, that we adjourn. Carried.



See Canada First

The meeting of the Canadian Dental Association will be held in Halifax on the 16th-19th August, 1926.

During the winter we are thinking of our summer vacations, and this year there will be an excursion by rail and boat to the Atlantic Coast.

An itinerary is being arranged to take the steamer from Toronto through the 1000 Islands to Montreal, where one day will be spent in sight-seeing. Steamer to Quebec, and up the Saguenay River past Tadousac, and back to Quebec, where two days will be spent in viewing the historical points of interest, and a visit to Kent House, the Falls of Montmorency and the Shrine of St. Ann de Beaupré.

The stay here will be interesting for the student of early Canadian history where he will find numerous spots of national interest.

We now take the Canadian National Railway (Intercolonial) along the St. Lawrence River by night and through the beautiful Metapedia Valley by day. We travel until late afternoon, when we come to Moncton, through Truro, and arrive at Halifax in the late evening.

During the next day or so there will be taken side trips through the Annapolis Valley, Grand Pré, and the land made immortal by Longfellow in his story of Evangeline by motor car or buses.

On our homeward trip we shall travel via Digby, thence by boat across the Bay of Fundy, to St. John, where a stop-over will be arranged. There are many interesting sights, and among them the wonderful reversing Falls, and then by the beautiful St. John River to Fredericton. After a short stay we will again travel by C. N. R. back to Quebec, where we will board the steamer for Montreal and Toronto.

It is the intention to have as large a number as possible take in this trip and see the beauties of our eastern coast, under similar conditions as the western trip two years ago. A definite itinerary and rates will be issued later, and any further information may be had from

C. ANGUS KENNEDY,
86 Bloor St., Toronto.

Dr. Nelson Hayes presented the subject of Silicate Cements to the Edmonton Dental Society. The discussion indicated that Silicates are not deserving of the high place they once held in dental practice.

Editorial

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No. 2

Professional Etiquette

Most differences between persons arise in a very simple manner. Here is a good example. A patient consulted a dentist in reference to a painful upper lateral incisor. The dentist diagnosed the case as acute peridontitis, and opened into the pulp chamber and placed a dressing. A marked swelling occurred on the palate and the patient called in a physician, who made an incision to evacuate the pus. The physician told the dentist what he had done and advised him to make a visit. The dentist did so and made a further incision, and among other things left a prescription for potassium iodide to be taken internally. This prescription is recommended in Buckley's *Materia Medica and Therapeutics*. By the time two doses had been taken the physician called again, and, finding out what had happened, telephoned the dentist, accusing him of a breach of the Medical Act in prescribing internal remedies.

Two wrongs don't make a right. Neither the physician nor the dentist intended to be discourteous to the other, but each had succeeded in being so. In the first place the physician began a direct treatment of the lateral incisor without acknowledging the dentist in the case at all; and in the next place the dentist prescribed a general remedy which should have been left in the hands of the physician. There is a too frequent habit of the physician to forget that a dentist is practising a profession closely allied to his own, and whose rights are to be respected, and too often den-

tists forget that medicine is an old profession with many traditions which the physician respects, and the dentist who violates one of these is considered unethical.

Dentists have a perfect legal right to prescribe medicines for their patients in the treatment of a dental disease, but if a physician is also on the case it is certainly unwise for the dentist to prescribe the general treatment.

When dentists begin to play at medicine and physicians begin to play at dentistry patients suffer.

The Teeth of Children in Institutions

There is located in New Westminster, B.C., an orphanage with fifty-two children under the direction of the "True Blue Lodge" and other local clubs. They have had quite a struggle financially, and when Dr. Sampson, R.C.D.S., '23, learned that the children had not received any dental treatment he offered his services free to the institution. Dr. Sampson has examined all the children, whose average age is ten and a half years. Thirty-one of the children have been in the institution since babyhood. In these there were only fifteen decays in the permanent teeth and none involving the pulp. Only four of the entire school ever had any dentistry done, and these were extractions. The general condition of the mouths of all the children is unusually clean and little caries, which speaks wonders for the dietitian and general management of the school. There is quite a good deal of staining of the teeth and few tooth brushes in use. A remarkable thing noticed by the dentist was that in such cases as there was a tooth brush the mouth was in questionable condition. Stains, no tooth brush and no caries go together. Whole sermons could be written on just such institutions. It would be interesting to compare the mouths of a similar school where each child has a toothbrush and goes through toothbrush drills.

Measuring Heredity in Royalty

A. E. WIGGAM

Here in democratic America we who despise such high sounding titles as Count, Duke and King, and are content with such modest designations as "Grand Exalted Ruler" or "Most High and Magnanimous Potentate of the Ancient and Honorable Order of the Sons and Daughters of This, That, and the Other," are thoroughly convinced that the Royal families of Europe are a low browed, low bred, run-out idiotic lot. Even in the United States Congress we often hear some member proving his one hundred per cent. Americanism and the superiority of our institutions by waving the flag and shaking his fists at what he is pleased to call "The degenerate scions of Royalty." I recently heard a lecturer deliver an hour's oration, which received the enthusiastic approval of his audience, in which he proved to his own satisfaction and that of his hearers that

seventy per cent. of these Royal personages have been imbeciles, insane or moral degenerates. Naturally it appeals powerfully to the average person to be made to feel that he is superior to the men and women, many of whom have made great names for themselves in the world's annals. Unfortunately history does not confirm this democratic egotism. We find that these low degenerates of the great European family group have produced as many truly great men and women as any other family of modern times. A larger number than is found in the average family no doubt will always remain among the genuinely great of the human race. It was only when unfortunate marriages from without the group occurred that mental weakness showed itself, as in the heirs of Austria and Spain.

Dr. Dobbs, an R.C.D.S. graduate, is practising at Morse. One day almost a year ago a patient presented himself, coming from Chaplin, a neighboring village. He wanted a lower left third molar extracted. There was a slight lump on the cheek and molar was badly decayed. Dr. Dobbs broke the tooth and tried several times to get the roots. Then he suggested the patient have a general anaesthetic. The man said he had to go back on the train which left in a few minutes. Dr. Dobbs asked him to return in the morning and the patient left. He did not return. Six days after he went to Moose Jaw and had the tooth extracted there with great difficulty and under a general. Before extracting they took an X-Ray which did not show the tooth to be abscessed. He then went home. Ten days after he came back to Moose Jaw with his face badly swollen. Medical assistance was called in and (according to the Hospital chart) an incision was made (externally) one inch in front of the ear. Pus was reached at this point.

The patient then sued Dr. Dobbs for eight hundred dollars damage, alleging malpractice and evidently trying to prove septic poisoning as a result.

The case was called last Thursday in Moose Jaw. Drs. Weicker, Layng and Cowan were there to give evidence of an expert nature and to watch the interests of the profession. At twelve o'clock the plaintiff's lawyer said he would proceed with the case at two o'clock. At two o'clock when the case was called neither the plaintiff nor his lawyer put in an appearance so the judge dismissed the case with costs against the plaintiff. But I am afraid the plaintiff is not worth the costs, so it seems as if Dr. Dobbs will be out considerable.

W. D. COWAN.

Canadian Dental Association, Halifax. Aug. 16-19

In the article last month we promised to say something this time about programme. It is rather early yet to draw up a definite programme. The number of notable dentists who have promised to attend and assist is steadily growing, and we are already assured of the attendance of many outstanding figures in dentistry. Those who have promised to give papers, clinics, etc., include: Dr. A. E. Webster, Dr. I. Ante and Dr. Cummer of the Dental Faculty of Toronto University; Dr. F. Conboy, of the Dept. of Health, Ontario; Dr. Thaddeus P. Hyatt, of the Metropolitan Life Insurance Co.; Dr. Evangeline Jordan, of Los Angeles; Dr. Louise Ball,

of the Dental Health Foundation of New York; Dr. Biley Smith, of the Instructional staff of the S. S. White Co. of Philadelphia, in clinic on the Wadsworth articulator; Dr. W. D. Tracy, of New York; Dr. T. P. Hinman, of Atlanta, Georgia.

Dr. F. Mallory, now of London, England, has presented the Association with a beautiful cup for a golf competition during the meeting. The entertainment committee are arranging for competitions, of which announcement will be made later. There are two splendid eighteen hole courses within easy reach of the buildings where the meetings will be held.

The exhibits committee are rapidly filling up the space which they have available. These will all be housed in one building and alongside one another, and as the leading Canadian companies and quite a number of the United States companies in the Eastern States have asked for space, it will make an interesting part of the meeting.

If you have not yet arranged for your hotel accommodation, do it early. If you have any difficulty in this connection please let us know. There are two large University residences which are delightfully situated on the shore of the famous Northwest Arm, which can be used if necessary. The three largest hotels are the Halifax, the Queen and the Carleton. In addition to these there are a number of smaller ones. There is plenty of available accommodation for a large convention, but since the meeting is being held during the tourist season we would strongly suggest that you make early reservation, and if we can assist in any way please let us know.

Don't forget to ask for any tourist information in the way of maps, booklets, etc., of the Maritime provinces, which will help you to plan your vacation trip. Take this opportunity of making this trip to the seaside provinces, which you have been promising yourself, and make it a real trip while you are at it. If you come by car you will find the roads good, and we will be very glad to help you plan your trip, so that you will be able to take in at least some of the points of scenic beauty. If you want to add golf, fishing, or a stay at some seaside resort to your trip, why not make your plans now to do it?

34 Larch St., Halifax.

J. STANLEY BAGNALL,
Sec.-Treas. Can. Dental Association.

What we are is of very much greater consequence than what we possess.

The nomination papers are out for the new officers of the Academy of Dentistry, Toronto.

That enterprising sheet which calls itself the "Booster" speaks of a Dental Health Day in Ontario, but gives no notice of the date.

A committee appointed in England under the safeguarding of the industries did not recommend a duty on tooth brushes coming from Japan.

The Novocol Chemical Mfg. Co., of Canada, Limited, a subsidiary of the Novocol Chemical Mfg. Co., Inc., of Brooklyn, N. Y., has recently begun business at 21 Wilton Square, Toronto. All Novocol business in Canada will now be handled from this Toronto office.

The Ontario Dental Association meets in Toronto May 17, 18, 19, and 20, 1926.

Manitoba, Saskatchewan and Alberta have combined to reorganize the Dental Society of Western Canada.

Dr. Fulton Risdon addressed the Toronto Western Hospital Clinical Society on Malignant Growths of the Mouth and Jaws.

Dr. A. D. A. Mason addressed the Academy of Dentistry, Hamilton, on the subject of the Application of Dental Anatomy to the Practice of Dentistry.

The dentists of Alberta and Saskatchewan are having great difficulty in preventing unqualified persons from practising. It is thought that before the unqualified are finished with a case will have to go to the Supreme Court.

CORRESPONDENCE

Orillia, Ontario, Dec. 11, 1925.

Dr. Harry S. Thompson,
Toronto.

Dear Doctor.—I understand you can supply information regards research carried out under the auspices of the C.O.P.A.

Can you give me details comparing crown alloy, made by National Refining Co., Toronto, with T. C. Alloy made by L. D. Caulk? showing the various ways they were tested. Also state name of alloy that appeared to be the proper one to use.

Who makes the best cement for crowns and bridges? What make of copper amalgam proved most advisable?

Has any work been done on Osogen, and if so, briefly, what?

When and where does the C. O. P. A. hold meetings and give reports on research? Are these reports printed? And if so, where are they obtainable? What does it cost to be a member?

Sorry to trouble you so much.

Yours truly,

H. D. MORRIS.
December 15th, 1925.

Dr. Harold D. Morris,
Orillia, Ont.

Dear Doctor Morris.—This morning I received your letter containing questions in regard to the Canadian Oral Prophylactic Association, its organization, meetings, educational and research work.

The Canadian Oral Prophylactic Association, as you know, is an organization founded some twenty years ago to promote Oral Hygiene educational work to the dentists, and to the public through the dentists. It consists of almost 900 dentist members. About 850 of these are Associate Members, and the balance are Active Members. The general meeting of the Association is an annual meeting held on the third

Tuesday in January and all members are notified ten days previously. At this meeting all business of the Association is transacted, reports are made on educational and research work; also, at this meeting an executive board is elected, and this executive board carries on the business for the ensuing year. The fee for life membership, associate, is \$1.00; active, \$10. The difference in Active and Associate membership is merely a difference in serving on the Executive Council. The report of the annual meeting is published in the DOMINION DENTAL JOURNAL, usually in the issue for the month following that in which the meeting is held. You can find the reports for the last fifteen years or so by consulting your files of this journal.

About 1918 the C. O. P. A. decided to establish a Department of Dental Research in connection with the Department of Pathology in the University of Toronto. This Department has been carried on under the jurisdiction of a Research Committee appointed by the University, of which Sir Robert Falconer was chairman. This Department was carried on until the last of July of this year, 1925, when it was discontinued because the Royal College of Dental Surgeons had become a faculty of the University and all dental work in the future was to be under their administration. During that time, (1918-1925) research work was carried on along various lines—more particularly to determine the germicidal properties of the so-called "antiseptic cements."

A study and an investigation of the bacteria found in and surrounding diseased teeth was under the study of streptococcus viridans taken more especially in regard to streptococcus viridans, which is found so extensively in oral infections.

On account of your interest in our organization and research work, I am enclosing a copy of our Charter and By-laws—also a copy of the report of work done with so-called "antiseptic cements," and a typewritten copy of an article written for "Hyaka," the latter of which explains our organization. Our object in carrying on experimental work with the so-called "antiseptic cements" was to determine whether they had germicidal properties and whether they did inhibit the growth of bacteria. By our reports you will find that none of the samples were permanently antiseptic. They lost their antiseptic properties so soon after they had set that as a germicide or inhibitor of bacterial growth they were, almost valueless. We found that the S. S. White, so-called "silver cement," exerted an antiseptic property covering a longer period than the others, but we also found on later studying the permeability of this cement that the S. S. White Silver Cement was more permeable to bacteria, i.e., bacteria would pass through it more quickly than through some of the others. The black copper cements, of course, did exert a germicidal property much longer than any of the others.

We carried on experiments with few of the different alloys, except copper amalgam. The kind we used was made by the L. D. Caulk Co., which I think is practically the same formula as used by nearly all the manufacturers. It will be interesting for you to read the report of this work, which you will find in the pamphlet I am sending you. We found that it had permanent germicidal properties. As long as a particle of it remained, it exerted an inhibitory influence upon the development of bacteria, and this has so impressed some of the dentists that for the last two years they have been carrying on experiments clinically by filling root cavities with this copper amalgam. The most outstanding work along this

line has been carried on by Dr. F. Husband, of Toronto, and the report of his success with it was published in the DOMINION DENTAL JOURNAL for February and March, 1925. You will find it there.

Answering your question regarding the comparative qualities of the different alloys (you mention Crown Alloy and Caulks T.C.), we did no work to determine the comparative qualities of any of the amalgams.

Also, your third paragraph, as to who makes the best cements for crowns and bridges. That is something we did not determine either. This word "best" is rather vague and covers quite a large field; so that is something on which our Research Department did not do any work. The make of copper amalgam we used was L. D. Caulk's.

Your fourth paragraph—Has any work been done on Osogen? I know of no independent work being done on Osogen. The L. D. Caulk Co. have furnished us with details of very splendid experimental work done in their own laboratories. They also give the formula of it, both as to its ingredients and quantities, and publish very elaborate details of the experimental work that has been done there. Many clinical observations of it have been recorded in the different journals. So you can easily check up all the work that has been done by referring to your Journal files.

As I said earlier in this letter, our work on cements and amalgams was purely to determine the germicidal properties of the so-called antiseptic cements, and this you will find quite complete in the report I am sending you.

I should be very glad at some time, in a personal interview, to give you the names of these cements, for you can quite understand they could not be published in our reports on account of the controversial possibilities from such publication.

I very much appreciate your interest in our Association, and would be glad to give any further information that I can, and some time, to consider you as a member.

Our membership embraces dentists from coast to coast throughout Canada and I hope that some day you will be a member also.

The C. O. P. A. does not manufacture nor sell; the products are distributed through selling agents—Lyman Bros. for the Tooth Paste and Powder and John Hargreaves for the Hutax Tooth Brushes. The C. O. P. A. receives a royalty of 3c. on each package of Dentifrice and each Tooth Brush sold. This royalty establishes the fund for carrying on educational work. The C. O. P. A. owns the copyright on the word "Hutax," also the patent on the design of the brush and the formula for the tooth paste and tooth powder. These are constantly checked up with the latest scientific findings, to make them, as we believe, the most satisfactory products on the market, and most nearly approaching the ideal.

Hoping that I have successfully answered your question, and with kindest regards, I am,

Yours very sincerely,

THE CANADIAN ORAL PROPHYLACTIC ASSOCIATION,
Harry S. Thomson,
Dental Executive.

P.S.—I regret to say that the entire edition of reprints on "Dental Cements" is exhausted. So you will find it complete in the DOMINION DENTAL JOURNAL for January, 1925—page 1. Also find an article on *Streptococcus viridans* in Dominion Dental Journal, June, 1924, page 170.

Dr. D.W. Massey, Vancouver, Dies Suddenly

Dr. D. W. Massey, 2065 Kitchener Street, for the past five years a practising dentist of Grandview, with offices at 1701 Grant Street, died suddenly while working over a patient in his operating room about four o'clock Tuesday afternoon. The doctor suddenly collapsed and died about ten minutes later. Heart failure is believed to have caused his death.

Dr. Massey was located in New Westminster for some time before coming to Vancouver. He served overseas during the Great War as a member of the Dental Corps, and before that time had resided in Colburn and Brighton, Ontario. He was 61 years old when he died.

The deceased leaves his widow, Mrs. D. W. Massey; a daughter, Ruth Massey, and a son, Dr. Lorne Massey, who was sharing his father's practise.

In the death of Mr. W. L. B. Colter, of Sarnia, the profession of dentistry has again sustained a real loss.

He was one of a family of dentists, his father, Dr. Chas. Colter, being among Canada's first to take up this profession.

Dr. Colter was living in Strathroy when he graduated as a dentist, and at once took over a practice in Sarnia which at that time was being carried on "part time" by his father, and continued in same in Sarnia till his death, which occurred January 3rd, 1926, at the home of his son, Dr. Chas. W. Colter, of Detroit, while there for Christmas and New Year vacation. He was one of Sarnia's most highly respected citizens, having at different times filled positions in their civic council. He was an ardent military man, being one of few to possess a long service medal. He was a Reformer in politics, and a protestant; also very active in different fraternal organizations, some of which were the Oddfellows and the Free Masons, the Knight Templars conducting the service at the Mausoleum.

WILL EXCHANGE Smith Premier typewriter, No. 10, in first-class mechanical order, for optical instruments; luminous hand ophthalmometer, sphygmomanometer, violet ray, current controller for retinoscope, light hand grinding stone, set of pliers, amblyoscope, interpupillary distance gauge, etc. I value my typewriter at \$50; what have you to offer. L. P. Trottier, O. D., Jonquière, Que.

DENTAL NURSE, age 20, graduate, experienced, high standing in laboratory work, desires position Toronto or Hamilton. Good references. Fair remuneration. Box 29, Dental Journal, 73 Richmond W., Toronto.

FOR IMMEDIATE SALE—A very lucrative dental practice, equipment, fine location, in one of Ontario's most flourishing cities. Address enquiries to H. D. Colte, 231 Nort Vidal St., Sarnia, Ont.

FOR SALE—Dental practice in large Eastern Ontario town—up-to-date mahogany-finished equipment, consisting of all laboratory accessories, fine chair, cabinet, sterilizer, desk, new Clark unit, waiting-room furniture, etc. Will sell equipment separately if desired. Price for practice, \$1,500; equipment slightly less. Box 30, Dominion Dental Journal, 73 Richmond West, Toronto.

DENTAL MECHANIC wants position in Canada; 11 years' experience, 6 Scotland, 5 U.S.A.; plate or gold; can assist at chair. J. Davidson, 707 E. St., Lawton, Okla., U.S.A.

Dominion Dental Journal

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No. 3

ORIGINAL COMMUNICATIONS

“Has Adrenalin an Equivalent in Vegetable Tissues?”

BY E. G. SIMMONDS, M.R.C.S. (Eng.), L.R.C.P. (London), L.D.S.
LACOMBE, ALBERTA

Probably most people have noticed how an apple or a pear turns a rusty brown when broken and exposed to the air. In my young days, being even then of an inquiring turn of mind, I asked the reason, and was informed that it was due to the rusting of the iron which these fruits contained. This had to do duty as an explanation, at the time, for want of a better; and one thought no more about it, little realizing that it was a matter of very great interest and some importance.

If one takes the trouble to notice, it will be seen that this property of turning brown, when exposed to the air, is common to practically all vegetable tissues, e.g., a bruised leaf, a broken potato or turnip, a heap of grass thrown out from the receiver of a lawn mower, all turn a brown color when exposed to the air, the result, of course, of oxidation.

But oxidation of what? Certainly not of iron! Obviously there is some substance common to all vegetable tissues which is readily oxidized; and since its presence is universal in the vegetable kingdom, it cannot be a mere accident, and must serve some useful purpose.

About two years ago it occurred to the writer—while eating an apple—that the brown coloration which occurred was remarkably like the change which takes place when a solution of adrenalin is exposed to the air, and similar to the bronzing of the skin in Addison's disease. The writer had recently been reading McCarrison's "Studies in Deficiency Disease," in which it was shown that the endocrine organs, especially the adrenals, underwent changes accompanied by alterations in their secretions, in avitaminosis.

Having conceived the idea that the "rusting" of an apple was similar to the brown coloration which an adrenalin solution undergoes when exposed to the air, the present writer wondered if vegetable tissues contained a substance equivalent to adrenalin; and whether this substance might be one of the vitamins? In order to try and elucidate this, the writer decided to apply certain tests for adrenalin to vegetable tissues and extracts, and more particularly to apples.

The following description of tests for adrenalin is taken from Squire's "Companion to the British Pharmacopoeia," 19th Edition, 1916:

"(I). A dilute aqueous solution affords, on addition of Ferric Chloride Test Solution, an emerald green coloration, changing on addition of Sodium Hydroxide solution from purple to carmine red.

"(II). A dilute aqueous solution, on the addition of one or two drops of iodine solution, assumes a beautiful rose-pink coloration.

"(III). Nitric acid, Potassium Bichromate Solution and Potassium Ferricyanide Solution produce a similar rose-pink coloration to that produced by Iodine Solution.

"(IV). An aqueous solution of Adrenalin immediately reduces Gold Chloride Solution, a complete separation of the metal taking place.

"(V). A drop or two of Sodium Hydroxide Solution when added to a minute particle of Adrenalin or to a very dilute solution, produces a reddish-brown coloration, and simultaneously a characteristic disagreeable odor resembling Hydrogen Phosphide is produced. This test affords a characteristic reaction for Adrenalin."

Before proceeding to apply these tests to vegetable tissues, in order to discover if they contained a substance comparable to—if not identical with—adrenalin, the writer first applied most of the above-mentioned tests to a 1:1000 adrenalin chloride solution, in order to become familiar with the reactions. Having done this, he next proceeded to apply the same tests to various vegetable tissues, and principally to apples on account of their white "flesh" and because they were easily obtained at that season of the year (early spring). The Gold Chloride test was not used.

But first let it be mentioned that there is one test, not mentioned above, which gives positive results in the case of most fresh animal and vegetable tissues or fluids, namely, the Guaiac test. According to Sajous (1) adrenoxidase constitutes the albuminous portion (94 per cent.) of the Haemoglobin of human blood, and gives a blue color with Tincture of Guaiacum.

The old familiar test for blood in urine is the Tincture of Guaiacum + Ozonic Ether test. The explanation of this reaction, given many years ago, was that the Fibrin ferment of the blood decomposed the ozonic ether (or hydrogen peroxide), setting free oxygen, which turned the Guaiacum blue. It is interesting to note that Sajous (2) identifies fibrin ferment with adrenoxidase. Practically all fresh vegetable tissues give the blue reaction with Tincture of Guaiacum.

Assuming then, that blood and other animal fluids and tissues give the blue reaction with Tincture of Guaiacum owing to the adrenoxidase they contain, it appears probable that nearly all fresh vegetable tissues and juices may contain an equivalent oxidase, for practically all give the blue reaction with the Guaiac test, thus showing the presence of an oxidizing ferment. The only exceptions to this rule that the present writer has met with are in the cases of orange and lemon juice. Consequently, we have

this for a starting point, i.e., adrenoxidase and most fresh vegetable tissues give the blue reaction with Tincture of Guaiacum.

Is the adrenoxidase of animals similar or equivalent to the oxidase of vegetables? Let us now see what other points of similarity there may be between adrenalin and the supposed equivalent of adrenalin in vegetables and fruits.

Do vegetable tissues react in the same way to any or all of the adrenalin tests as enumerated above? This was the point the present writer endeavored to elucidate if possible, though in a somewhat crude manner.

It would be impossible, in a short paper, to mention every test made on different vegetable tissues. So, for the sake of brevity, and as it affords a fair indication of what obtains in many other vegetable tissues, the apple alone will be treated of here, and the comparative results given, as the writer found them after applying adrenalin tests to the apple or its extracts.

At the outset a difficulty presented itself. Owing to the rapidity with which oxidation takes place, it was found difficult to obtain a purely aqueous extract which did not quickly turn brown and become more or less inert. Moreover, a brown solution, even if fairly active, was not desirable in the case of delicate color tests. By slightly acidulating the water with hydrochloric acid, one avoided oxidation, and obtained a pink extract of the apple; but here again the pink color and the presence of even a small amount of free hydrochloric acid were objectionable.

On the other hand, an alkaline extract was inadvisable, since alkalies are said to render adrenalin and the vitamins inert.

The best course to pursue seemed to be to apply the various reagents to the freshly cut surface of the apple itself before oxidation could take place. This was the first method employed. The apple was cut with a clean electro-plated spoon, as a steel knife would contaminate the surface.

Below are recorded the results first obtained by applying the reagents directly to the freshly cut surface of apples.

(I). Tincture of Guaiacum gives an intense and immediate blue color.

(II). Solution of sodium hydroxide gives an immediate yellow color, slowly changing to orange, and then brown. In the case of a crab apple the color became a rich red-brown.

(III). Ferric chloride solution turns the apple surface a dirty greenish-brown—a sort of indefinite color one can hardly give a name to, and certainly not like the emerald green one obtains with this test in the case of adrenalin; but one has to remember that—owing to the presence of tannic acid in vegetable tissues—iron would naturally form an “inky” color when applied to them. One could only say there was a greenish hue.

(IV). With Iodine test solution one obtains a dark green color, not the rose-pink obtained in the corresponding adrenalin test. Even when a very weak solution of Iodine was used, the apple surface did not turn pink.

(V). With Bichromate of Potash solution, one can not obtain a rose-red color as in the corresponding adrenalin test. But the apple surface turned brown when the Bichromate solution was applied, the interest of which fact will be alluded to later.

The writer has never been able to obtain a pink color with adrenalin and nitric acid, as mentioned in Squire's “Companion to the B. P.”; consequently he did not expect to get that reaction in the case of an apple. It gave no such reaction in any degree of solution employed.

Much time was spent over these early tests, and the results were

mostly negative. The only tests which seemed to indicate a resemblance between adrenalin and its supposed vegetable equivalent were the blue color with Tincture of Guaiacum, the dirty greenish color with Ferric Chloride solution, and the brownish-red color with Sodium Hydroxide solution. Of these three tests, the first alone was really positive, the other two being merely suggestive. Since the Ferric Chloride test had to be classed as doubtful, there being merely a greenish hue to an otherwise dirty brown color; while the Sodium Hydroxide test, giving a brownish-red color, though seeming positive, might have indicated the presence of sugar (Moore's test).

These same tests, applied to aqueous and alcoholic extracts of apple, gave no more encouraging results.

All the above tests were many times repeated with both apple and other vegetable tissues; and, although the results were at times suggestive, one could not state positively from them that vegetable tissues contained anything equivalent to adrenalin. All one could say positively, at that stage, was that the "rusting" of an apple on exposure to the air was remarkably like the rusty color that adrenalin assumes under like circumstances; and that the blue color which nearly all fresh vegetable tissues give with Guaiacum indicated the presence in them of an oxidizing ferment, which might or might not be equivalent to adreno-oxidase.

At this stage, the writer despaired of being able to get any nearer to a solution of the problem, owing to lack of suitable apparatus and also lack of chemical knowledge. It seemed that, if vegetable tissues contained an equivalent to adrenalin, it would be necessary to isolate it if one expected to obtain the adrenalin reactions with it. Although still having a suspicion that there was an equivalent to adrenalin in vegetable tissues, the writer could not prove it under prevailing conditions. Consequently further tests were abandoned for the time being.

But in July, 1923, there appeared in the Dental "Cosmos," a paper by Sajous (3), in which he identified Vitamin C with adrenalin and adrenoxidase, which in vegetables, fruit, etc., he found to be Tyrosin and Tyrosinase. He goes on to say:

"The familiar Guaiac test is well known to demonstrate the presence of an oxidase, but as there are many of these, it became necessary to find one that would be specific to blood and plant respiratory pigments. After much searching I finally adopted what I termed the Adrenalin— H_2O_2 test, using as staining fluids nine parts of distilled water to one of hydrogen peroxide in one bottle, and a 1:1000 adrenalin chloride solution in another. Whatever fluid or teased plant tissue is to be examined is first treated to a few drops of the adrenalin solution, then to the 1:3000 H_2O_2 solution. With this test, as used in one hundred and ten foods, I found it possible to determine the Vitamin C value of each as represented by its content of Tyrosin. What this test does is simply to enact "extra corpore" the process of blood oxidation in the lungs. We have seen that venous blood under appropriate conditions could be converted into arterial blood by the addition of adrenalin on exposing it to the air, thus proving the correctness of my respiration theory. Now, in plant life, Tyrosin corresponds with the constituent of Haemoglobin which causes it to become converted into oxyhaemoglobin. The Vitamin C value of a plant, therefore, is represented by its Tyrosin content and becomes red in proportion. Now the turnip, the victim of the old saying "One cannot

draw blood from a turnip," can actually be shown to contain plenty of it, because it is rich in Tyrosin. The adrenalin— H_2O_2 test causes it to become vivid red."

Here then was confirmation of the very point the present writer had been trying to elucidate, but had been unsuccessful in proving. If adrenalin were present in vegetable tissues in the form of its equivalent Tyrosin, why did not the recognized tests for adrenalin give positive results when applied to vegetable tissues? One felt that if the facts were correct, as stated by Sajous, these tests must be positive, and that probably the technique used in applying them had been faulty. So once again the apples were brought into requisition for test purposes.

This time I proceeded along different lines, on the supposition that in testing small sections of apple there would likely be only a very small amount of Tyrosin in each section tested, and that consequently one might have to employ very much weaker reagents than those used when testing a 1:1000 adrenalin chloride solution. In my earlier tests with apples I had used the same strength of test solutions that had given positive results with 1:1000 adrenalin chloride solution; and, as shown above, these same reagents—in like strength—had not given positive results in the case of apples.

In my next series of tests, the reagents employed were very much diluted, and the general plan adopted was to use two tubes for each test: the various reagents, very diluted, having been prepared, the first tube was filled with reagent only, while the second tube was filled with the same reagent, plus small sections of freshly cut apple; thus, in each test, both tubes contained reagents of equal strength, the only addition to the second tube being the apple sections. By this means one could readily detect any color change that might occur in the second test tube, by comparing it with the first.

Let us now consider the results of this "modus operandi":

Test I. The Tincture of Guaiacum test needed no repetition as it had already given positive results, as shown above.

Test II. With Sodium Hydroxide Solution, two tubes were not necessary, as the reagent is quite colorless. A normal aqueous solution of Sodium Hydroxide was used. On putting small sections of freshly cut apple into a tube filled with this reagent, an immediate yellow color was produced, which slowly turned to brown. At the end of twenty-four hours the color was a rich red-brown. No distinctive odor of Hydrogen Phosphide was detected, as in using this test with adrenalin.

Test III. Ferric chloride solution: In this test, the Liquor Ferri Perchlorid. B.P., was diluted with water to a light yellow color, about that of a lemon. Two tubes were used. The first contained reagent only, and was kept for purpose of comparison with the second tube, which contained the same reagent, i.e., of like strength—plus freshly cut pieces of apple. The tubes were left to stand for twelve hours at ordinary room temperature. It was then found that the second tube contents had changed in color to a greenish-brown. No doubt the presence of tannic acid in the apple marred this color test, or possibly an albuminous substance had been precipitated by the Ferric Chloride. The problem was, how to get rid of the iron tannate or albuminate, whichever it was? Filtering cleared it somewhat, but not entirely. The filtrate still was a greenish-brown. The course finally adopted was to add pure ether to the fluid in the second tube.

This was then thoroughly shaken, so as to mix the contents. The tube was then left to stand for a few minutes, when it was found that the ether, on rising to the surface, had carried a brown scum with it, leaving the underlying fluid a grass green color, thus indicating that the Ferric Salt had been reduced to the Ferrous state. By comparing this with the color of the original reagent in the first tube, the change was easily observed. Adrenalin gives an emerald green color with this test.

Test IV. With the Iodine test, the reagent is diluted to a light yellow, i.e., lemon color. An aqueous solution is used. This is a very delicate test indeed, as, if too strong a reagent is used, free iodine remains unaltered, and the change of color is not detected. The Iodine test solution is prepared, and two tubes filled. The first contains reagent only, and the second, reagent plus small pieces of apple. The two tubes are then allowed to stand at rest—without agitating them. In from half an hour to an hour, at ordinary room temperature, it will be found that the reagent in the second tube has changed to a light pink color. On comparison with the original reagent in the first tube, the change in color is readily noted.

Iodine solution gives a rose-pink color with Adrenalin-Chloride solution.

Test V. An aqueous solution of Bichromate of Potash is used in this test, and is diluted to a pale yellow color. Two tubes are again used, exactly as in the two preceding tests, for the sake of comparison. A slice of freshly cut apple changes the color of the reagent in the second tube from yellow to brown. One does not obtain a rose-red color as in the corresponding test with adrenalin. The interest of this brown reaction, with apple, will be alluded to presently.

Test VI. A piece of freshly cut apple, when put into an aqueous solution of Permanganate of Potash, quickly decolorizes the solution. Adrenalin has the same effect.

Thus it will be seen, of the above six tests, one was able to obtain similar reactions with both apple and adrenalin in five of them. In test Number V it will be noticed that Bichromate of Potash gave a brown color with apple, but a rose-red with Adrenalin Chloride. Although the results are not identical in the two cases with this test, the brown color with apple is of interest for the following reason: The chromaffin tissues, which include the supra-renal medulla and the sympathetic nervous system, give a green reaction with Ferric Chloride and a brown color with Bichromate of Potash. These are precisely the reactions one gets with a section of apple, also with these two reagents.

Considering the results of the above tests collectively, one may justifiably conclude that adrenalin and adreno-oxidase have their equivalents in vegetable tissues; and one begins to see the truth of the saying, "An apple a day keeps the Doctor away"; and what applies to the apple is applicable also to many other fresh vegetable tissues.

As confirmatory evidence, considered in conjunction with the tests already mentioned, one may say that both apple extract and adrenalin reduce Fehling's solution, the cupric oxide being readily reduced on boiling to the orange-red cuprous oxide. Also, both adrenalin and an aqueous extract of apple reduce an ammoniacal solution of Nitrate of Silver. In one test with apple extract, I was able to get the test tube coated with a deposit of metallic silver.

Now, as to the identity of the vegetable equivalent of adrenalin, Sajous (3) considers it to be tyrosin, a view which is supported by the

fact that Pembrey (4) wrote more than ten years ago that "Tyrosin is considered to be a mother substance of adrenalin," though vegetable tyrosin is not specifically mentioned by him.

It seems likely, too, that tyrosin and tyrosinase may be equivalent to one of the so-called Vitamins. Sajous (3) identifies them with Vitamin C, but this view does not seem to agree with the findings of Vedder (5), who states that Vitamin C is non-nitrogenous, whereas Tyrosin is nitrogenous, being an amino-acid. Consequently, if Vedder's view is correct, tyrosin could not be identical with Vitamin C. Moreover, unless the present writer's technique is at fault, Sajous' adrenalin— H_2O_2 test does not give a pink or red color in the presence of orange or lemon juices, although these juices are our most reliable source of Vitamin C. Neither does either of these juices give a blue reaction with the Guaiac test.

As far as one can judge from the literature on the subject, Vitamin B seems to fit in more closely with the published data. Thus Vedder (5) finds that Vitamin B is nitrogenous. So also are adrenalin and tyrosin. Boiling and alkalis destroy all three of them. Deprivation of Vitamin B causes a lowering of the body temperature, as found by McCarrison (6), and also by Kulp and Anderson (7), in which respect it resembles Hypo-adrenia.

Again, McCarrison (8) concluded that Vitamin B is associated with Carbo-hydrate metabolism, in which respect, too, it corresponds with adrenalin. As is well known, Hyper-adrenia is commonly associated with glycosuria; and conversely, in cases of Hypo-adrenia, there is an increased tolerance for sugar; or in other words, in Hypo-adrenia the sugar is not mobilized, as it is in Hyper-adrenia, but stored as glycogen and fat.

Conceding that Vitamin C occurs to a greater or less extent in all fresh fruits and vegetables, the same applies to Vitamin B; so that, considered apart from other evidence, Sajous' adrenalin— H_2O_2 test might as logically apply to one as the other. But if we choose two extreme cases, as, for example, orange and lemon juices as being richest in Vitamin C, and yeast as being richest in Vitamin B, it is significant that the adrenalin— H_2O_2 test fails in the former case, but gives a pink reaction in the latter.

But is the adrenalin— H_2O_2 test of any value? Sajous (3) writes: "What this test does is simply to enact 'extra corpore,' the process of blood oxidation in the lungs. We have seen that venous blood under appropriate conditions could be converted into arterial blood by the addition of adrenalin on exposing it to the air, thus proving the correctness of my respiration theory."

This may possibly be so; but unfortunately the adrenalin— H_2O_2 test is capable of a simpler and very different explanation. The present writer (9) was particularly interested in this test, because, during the past three or four years, he has been advocating the constitutional treatment of "Pyorrhoea" by means of Organotherapy, on the ground that, in very many cases, dietetic treatment alone failed, because of varying degrees of atrophy and sclerosis in the endocrine organs, which rendered the latter incapable of responding to dietetic treatment even with the vitamins in full force.

Looking upon "Pyorrhoea" or Rigg's disease as a deficiency disease, induced by a vitaminosis or toxæmia, or both combined, with resulting Endocrine disturbance, I felt that Sajous' findings would have consider-

able bearing on the theory that Rigg's disease is a modified form of scurvy-rickets. For this reason, in speaking of the adrenalin— H_2O_2 test, Sajous (3) continues:

"But so does saliva under the same test turn red, though less so, thus showing that it contains, like blood plasma, the respiratory enzyme."

Now the respiratory enzyme of Sajous is adrenoxidase, which he identifies with the vegetable respiratory enzyme Tyrosinas, which he holds to be equivalent to Vitamin C. If one correctly interprets his views, one infers that saliva contains Vitamin C, because it turns red with the adrenalin— H_2O_2 test.

In that case, and if Rigg's disease were a modified form of scurvy, one would expect to find an absence of Vitamin C from the saliva in that disease. But, on examining the saliva of many typical cases of "Pyorrhoea" I found that the red reaction with the adrenalin— H_2O_2 test was present in every case.

How, then, could "Pyorrhoea" be considered a scorbutic condition, if Vitamin C were present in the saliva in every case, as shown by the adrenalin— H_2O_2 test?

I was lucky enough to stumble upon the answer to this question, and found that the red reaction with saliva had no bearing on the case at all; because, even supposing that the adrenalin— H_2O_2 test is an indication of the presence of Vitamin C, it also indicates the presence of another substance which is almost invariably and naturally present in saliva, namely, common salt.

After reading Sajous' paper, from which extracts have been quoted above, the present writer wondered if the adrenal principle ever appeared in the urine, and out of curiosity applied the adrenalin— H_2O_2 test to a sample of it. The red reaction was obtained at once.

Now, this seemed strange, as one would not expect so valuable a substance as adrenalin to be wasted in an excretion. Knowing that the patient was taking Iodide of Potassium at the time, I applied the test to a solution of Iodide of Potassium, and immediately got the red reaction. This gave me the key to the solution of the problem, and the rest was easy.

The inorganic salts of the Halogens, viz., Chlorine, Bromine and Iodine all give the pink or red reaction with the adrenalin— H_2O_2 test.

The following is a simple experiment: Take three clean white saucers. Into the first put a solution of sodium chloride; into the second, a solution of Potassium Bromide; and into the third, a solution of Potassium Iodide. Next, put a few drops of a 1:1000 adrenalin chloride solution into each saucer. Lastly, add to the solution in each saucer a few drops of a 1:3000 Hydrogen Peroxide solution (i.e., one part H_2O_2 to nine parts of distilled water), and mix the contents well. It will be found that the mixtures in each saucer will turn a pink or red color, according to the strength of the salt solution in each. Warming the saucers over a spirit lamp hastens the reaction.

The explanation, of course, is that the H_2O_2 liberates the Chlorine, Bromine, or Iodine, as the case may be, from its combination with the Sodium or Potassium; and we know that adrenalin gives a rose-red or pink color with free Chlorine, Bromine, or Iodine.

I repeated this experiment several times, with a view to finding out if one could get the reaction with very weak solutions of the Halogen Salts, especially as regards Sodium Chloride. I found that a one per cent.

solution of sodium chloride gave a decided pink color, so also did a physiological salt solution made from one Ringer tablet (Parke Davis Co.) dissolved in 10 c.c. of distilled water. I even got the pink reaction with well water. Thus, one finds that the adrenalin— H_2O_2 test is a very delicate test for the Halogens, and will even demonstrate the presence of chlorine in a physiological (.86 per cent.) salt solution. Consequently, one need not be surprised at getting a pink reaction with saliva, owing to the Sodium Chloride it contains. One does not deny that saliva may contain a small amount of adrenalin or of one of the Vitamins also; but the point I wish to bring out is that the mere presence of a pink reaction in the saliva, brought out by the adrenalin— H_2O_2 test, has no bearing whatever on the question as to whether "Pyorrhoea" or Rigg's disease is a form of scurvy, as it simply demonstrates the presence of sodium chloride.

So much for the tests of the Inorganic Salts of the Halogens! Will the adrenalin— H_2O_2 test demonstrate the presence of the Halogens in organic combination also?

In order to prove this, some Thyroid extract tablets, which contain Iodine in organic combination, were ground in a mortar with glycerine, and distilled water was added. This solution gave a rose-pink color with adrenalin— H_2O_2 ; but I found that Nitrate of Silver gave a white precipitate, insoluble in nitric acid, but soluble in ammonia, thus showing the presence of chlorides in the Thyroid tablet. Consequently the adrenalin— H_2O_2 test did not prove that Iodine had been liberated from organic combination, as the pink color might have been due to an inorganic salt of chlorine.

Then it occurred to the present writer that adrenalin-chloride itself was chlorine in organic combination, so that possible H_2O_2 might liberate the chlorine from adrenalin chloride, and give the pink reaction, without the addition of any other substance whatever. I took particular care over this test, so as to avoid the introduction of any chloride from an extraneous source. A clean white saucer was washed with distilled water. The H_2O_2 was diluted with distilled water in a test tube previously cleaned and washed also with distilled water, the water itself having previously been tested with Nitrate of Silver and proved free from chlorides. A few drops of the 1:1000 adrenalin chloride solution were poured direct from its original container into the saucer, and a few drops of the H_2O_2 solution were added. The mixed reagents—just adrenalin chloride and H_2O_2 solution—gave a rose-pink color at once, when gently heated.

From this we see that H_2O_2 will liberate chlorine from organic combination, and that the adrenalin— H_2O_2 test is practically worthless as an indicator of tyrosin or Vitamin C, because adrenalin chloride gives a rose-pink reaction with Hydrogen Peroxide itself, even when no other substance is present.

In conclusion, one may be justified in saying that adrenalin has its equivalent in vegetable tissues, as shown by the fact that the above mentioned adrenalin tests give a similar reaction with vegetable tissues—not merely a case of one or two similar reactions, but of half a dozen—a similarity which is too remarkable to be a mere coincidence.

Also, it seems likely that this vegetable equivalent of adrenalin may be identical with one of the Vitamins, the balance of available evidence seeming to be in favor of Vitamin B.

There is one other point the writer would like to determine, but has

no facilities for doing so. If adrenalin has a vegetable equivalent, then the subcutaneous or intravenous injection of fruit or vegetable extracts into animals should raise the blood pressure; theoretically, they should do so.

I don't know if experiments have ever been made to determine this point; if not, I can only hand on the suggestion to some investigator who may have the facilities for carrying out the test.

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Ammoniacal Silver Nitrate and Formalin

The Theory and Function

For Treatment of All Diseased Conditions of the Teeth
Howe

THEORY—Ammoniacal Silver Nitrate is an evenly balanced solution of chemically pure Silver Nitrate Crystals and Ammonia. Silver Nitrate loses its caustic properties, and Ammonia its irritating qualities and pungent odor, when this solution is in balance. A neutral compound is formed which is harmless, but Silver has not lost its sensitiveness.

Bacteria are the media which carry the Silver Solution. Time, not instrumentation, is the factor which governs penetration. The Silver solution not only penetrates to the depth of bacterial invasion in the tubuli, but it is carried to the depth of bacterial influence, eliminating to a large extent the use of delicate instruments in root canals. Small or delicate instruments have no value in reaching moist infected material in the tubuli, or in inaccessible canals and accessory foramina found at the apices of roots.

When a pulp becomes infected and it is removed, the next procedure is to fill the canal. It is more important as a therapeutic measure to fill the tubuli, after organic matter has been destroyed, than the mere filling of the canal. Metallic Silver which is reduced in the tubuli is ideal for this purpose. It establishes an area which bacteria cannot penetrate or inhabit.

After penetration or diffusion of the Silver Solution, a 25% solution of Formalin is applied, and this is carried by the Silver to a point of saturation. Ammoniacal Silver Nitrate is the carrying agent for Formalin. A powerful chemical activity is immediately set up which destroys germs of all descriptions—nothing lives.

If Formalin alone is placed in a canal, it does not enter the infected tubuli, but passes to the soft tissues at the root end. To be carried into the tubuli, Formalin must be preceded by Ammoniacal Silver Nitrate.

**A 1% solution of Formalin kills pure cultures of pathogenic bacteria in one hour.*

During this process metallic Silver in its purest form is reduced, filling the tubuli wherever organic matter had been destroyed by bacteria. Metallic Silver plugs and seals the tubuli at the point of contact of sound tissue, completely walling off subsequent bacterial invasion.

The reduction of metallic Silver is secondary, but highly important, for metallic Silver deposited, seals minute apical openings without the use of instruments.

There is a strong prejudice which exists in regard to the use of Formalin, on account of its irritating properties. But when it is taken up to a point of balance, or a point of saturation by Ammoniacal Silver Nitrate, a new compound is formed. Formalin is completely eliminated by the same process that Ammonia is eliminated in the Ammoniacal Silver Nitrate Solution.

Oral Hygiene

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Oral hygiene includes all measures, esthetic and hygienic, undertaken by the patient to preserve the health of the teeth and the mouth, and indirectly the general health.

The human mouth is said to be a good incubator for the growth and development of bacteria, yet there are many which do not find their habitat there, and on the other hand there are many indigenous to the mouth. Not all bacteria found in the mouth are pathogenic, in fact there are many not only non-pathogenic, but serving a useful purpose as is found in other parts of the body. There are many pathogenic organisms found in the mouth which are non-pathogenic to the host, but would be pathogenic to others, or become pathogenic even to the host under favorable conditions. Fortunately we are usually immune to our own bacteria. The mouth contains many favorable conditions for the growth of bacteria, heat, moisture, food, sufficient motion to carry away the waste products, and sufficient quietness in secreted locations to permit rapid development.

Defects congenital or acquired tend to the pathogenicity of bacteria. E.g. A normal mucous membrane is rarely seen covering the posterior nares or mouth of a cleft palate patient. So it is we see a tendency to gingivitis in malocclusions, irregular and malformed teeth and teeth with pits, and fissures and softened enamel. Every deviation from the normal tends towards disease.

Nature's methods of keeping the mouth free from pathogenic bacteria and thus maintaining health are manifold. There are no end of cracks and crevices in which food might lodge and develop pathogenic bacteria. The mucous membrane is generally smooth with a surface stippled and an exudation of mucous which hinders sticky substances from remaining attached, and there is a constant flow of saliva to dissolve, dilute and wash away substances which might irritate, putrefy or ferment. The mucous membrane of the mouth is unusually tolerant of wounds, and is abundantly supplied with nerves and blood vessels, so that healing occurs rapidly. It is supported by a fibrous structure resting on the bone which resists heavy pressure without hurt. The gingivae hugs tightly about the necks of the teeth and yet seems to have a kind of motion which tends to dislodge food, no matter how tightly jammed between the teeth. It is this action which often removes cotton dressings, and separating lint or tape, rather than the patient's fingers. The normal form and arrangement of the teeth tend to keep them free from decomposing food. Much might well be said right here about the forms of the teeth which hinder food from wounding the gums and preserves the soft tissues between the teeth.

In proportion as the tooth's surface is smooth and normally developed will it resist decay, erosion, attrition, abrasion, solution and discoloration. It is the physiological surface of the tooth, the normal mucous membrane and the normal secretions of the mucous and salivary glands that chiefly interests the student of oral hygiene.

We have thus in a few sentences set forth the conditions of the human mouth as they are generally found in health. Now comes the problem of the development and maintenance of a physiological mouth, including the teeth in cases of bad family history and bad environment.

With all our boasted education, physical training exercises, dietetic discoveries, and public lectures, we sometimes forget that like begets like, and that we do not pick grapes from thorns, nor figs from thistles. Fully 80% of our physical and mental characteristics are inherited, and out of the control of the educator. We can by the violation of nature's laws produce many deformities, and it would seem that it is this very thing we are doing when we feed mothers on diets deficient in the essential elements for normal development. Every dentist has seen the influence of heredity on the face, head, jaws, teeth, their arrangement and occlusion, and the diseases from which the progeny suffer. It must not be thought that by brushing the mother's teeth the baby's will thus be made clean also, in other words, acquired characteristics are not transmitted.

Pickerel found marked differences between the smooth surfaces of enamel in primitive and civilized races.

Mellanby observed both enamel and dentine to be defective in structure in civilized races, as well as in the teeth of dogs fed on rickety diet. There were also much wider fissures in rickety dog's teeth.

Defective tooth structure is a large factor in tooth decay.

It has been abundantly shown that deficiency diets of mothers will produce defective bony and tooth structure in the offspring, but not so shown that mothers fed up to our best standards of to-day will yield children with perfect teeth. However, it is a fair supposition and worth the dentist's while to help the physician to do away with the withholding of calcium and phosphorus from pregnant women so as to make an easy birth.

It is rather spectacular to be speaking out boldly about the diet of pregnancy which will produce sound teeth in the child, when as a matter of fact, at most there are not a half dozen permanent teeth calcified in utero, the balance if influenced in structure by diet at all must be so influenced during the first eight years of life. With all our talk about the need for prenatal clinics, and better babies, it is the writer's observation that up to the time of the loss of the deciduous teeth, the mouth is in better condition than afterwards. Every dentist has seen the mouth of a child with defective teeth, but a healthy mouth. In other words, while children are under intelligent parental guidance their mouths are in better condition than later when the youth is looking after himself.

It is reasonable to expect that deficiency diets which cause defective bones and teeth, also cause defective glands, mucous membranes and secretions. It is the writer's observation that not only is there a tendency to derangement of the secretions, but there is a lack of activity in the mouth action which favors the accumulation of mucous, calculus, blood, food, and bacteria on the teeth, gums and mucous membranes. The tendency toward such accumulation has little relation to the incidence of dental caries, but bears a definite relation to periodontal disease, and later to systemic affections. After the teeth have been calcified, the chief consequence of bad diet and poor mastication are exemplified in the condition of the mouth. Hunter, Smith, and later Steadman, each directed attention to some form of oral sepsis which had a profound influence on general health. For them

oral hygiene was not practised for the prevention of dental caries alone, but for the maintenance of health by the prevention of the accumulation of foreign matter in the mouth. Secondary anaemias have been traced to oral sepsis, as well as cancer of the alimentary tract. Oral sepsis is understood to be filth accumulations in the mouth, associated with defective, irregular teeth and faulty secretion.

Defective diets may lack in essential constituent elements, vitamins or bulk. So far as dentistry is concerned there must be an abundant supply of that which the teeth are made of, and there must be vitamins to cause their normal deposition, and there must be fibrous matter as well as grits to keep the surfaces of the teeth clean in the normal process of mastication.

Many diets lack in all three, and as a consequence, teeth often fail to calcify and are not kept clean by mastication. No amount of good diet or oral hygiene will correct the defects, but they may prevent their usual consequences. It is held with a good deal of cogency that teeth and investing tissues, though defective, can be prevented from decay or disease by diet and oral hygiene.

We wish to make it clear that the first and most essential reason for oral hygiene is the prevention of oral sepsis. Second periodontal disease. Third, dental caries; and fourth, esthetics. In practise it may not be wise to always present the reasons for oral hygiene in the order of their importance, but in the order of their power to influence. Unfortunately, oral hygiene has always been presented as a panacea for dental caries and no recommendation that I know of, given by responsible persons, has been such a signal failure. The increase of the incidence of dental caries has even surpassed the increase of the practise of oral hygiene. It has failed not because a clean tooth decays, but because a tooth cannot be made clean by the methods employed. Could there be any greater humbug put over on the people than to sell them a tooth brush and a mouth wash, or tooth paste, on the assumption that their teeth would decay no more if they used them. It would be laughable if it were not so pathetic, if we only knew what scant foundation there is for all the different devices there are for preventing dental caries and oral sepsis.

When Miller discovered that bacteria caused dental caries, the profession, and especially the drug manufacturers, had a scheme for stopping the disease in a minute. Just kill the bacteria and all was well. "But who was going to hold the bacteria?" and what was going to happen to the patient? So the phenol, bichloride of mercury scheme failed because they could not be used in such strength as to reach the bacteria.

But Miller said it was the waste product of the bacteria, an acid that caused the solution of the tooth structure. This made the problem still easier, because alkalies were not so dangerous to use in the mouth as poisons, so then followed a great flood of antiseptic, alkaline mouth washes, with the same result as before, just simply impossible to get the drugs in action, where the destruction of the tooth was going on.

J. Leon Williams explained how decay began on smooth surfaces of the teeth. The bacteria covered themselves with a gelatinous plaque and under this secreted the acid of decay.

Dr. Head and others suggested that by dissolving the plaque, the bacteria would be destroyed. They used hydro fluoric acid, but, like the other experiences, if it dissolved the plaque it destroyed other tissues. D. D. Smith began to practise oral prophylaxis, or rubbing the plaques off

with a grit on an orangewood stick. Then came the gritty tooth powders and tooth pastes, doctored up with all kinds of antiseptics, alkalies and flavorings for public use. Each dentist and manufacturer concocting some mess which was more attractive than another, until neither the public nor the profession know where they are at. The chief recommendation of recent years for a toothpaste is that it has no grit in it at all and as a consequence it will not do what it was intended to do, remove the plaque.

No well-informed dentist to-day expects to stop dental caries by drugs or grits, or tooth brushes in the hands of his patients.

The development of the tooth brush from the root of a tree to the Hutax is quite as interesting as the development of the tooth paste, if we only had time to review it.

Every dentist is asked about this, that, and the other tooth paste, and if he is honest, he must confess he doesn't know a darn thing about it. If the patient should say "how often should I use this paste?" He must say he doesn't know. Thousands of teeth have been cut clear across with a tooth paste on a brush. How are we to know if the paste we recommend will not do the same thing in five, ten or forty years. Would it not be a useful research to determine this for the pastes on the market to-day and also find out if they will remove a plaque and not stick in between the teeth and ferment.

What are we going to say to our patients who have been reading all the bulletins, brochures, reprints, and "educational literature" sent out during the past twenty years? Are we going to say it is all bosh? And to the mother, when her children's teeth ache, we will extract them and as soon as the cavities get to be big enough we will fill them, and when Jenny develops into womanhood and must be seen of men we will regulate her teeth and put gold fillings where we now put *porcelain*. To ourselves we say to H... with children.

Or shall we say to our intelligent, well-trained and anxious mother, bring your baby with you at your next visit. I should like to see him. I'm sure he must be a beautiful child. I'd like to see how his teeth are getting on. Here is a pamphlet issued by the Health Department on the care of children's teeth. Read it. It is at these casual visits that wearing, discoloration, solution, caries and malocclusion are foreseen. The appearance of the soft tissues is quite as indicative of the future of the denture as the teeth themselves. A properly fed child who is normal physically needs little if any brushing of his teeth. As soon as the child's teeth need brushing to keep them clean then you know nature's plans have been thwarted. The need for oral hygiene is in direct proportion to the patient's age and the number of remaining teeth.

1. THE CHIEF PURPOSE OF ORAL HYGIENE IS THE PREVENTION OR CURE OF ORAL SEPSIS.

- By (a) Proper food of proper chemical constituents, vitamins and bulk.
- (b) Proper mastication.
- (c) Both sluicing and stagnant applications of water to the mouth.
- (d) Massage of the gums, mucous membranes and teeth.
- (e) Thorough and efficient brushing of the teeth where food, concretions and bacteria are prone to be harbored.
- (f) Scraping and brushing the tongue.

- (g) Floss silk, rubber bands, between the teeth.
- (h) A few operators recommend orangewood sticks or tooth picks.
- (i) Dilute Peroxide of Hydrogen, as directed.
- (j) Astringent mouthwash as directed.

2. THE PREVENTION OF PERIODONTOCLASIA

- (a) By food
- (b) Mastication
- (c) Massage
- (d) Lavage
- (e) Friction
- (f) Normal occlusion
- (g) Prevention of bad mouth habits
- (h) Frequent dental examinations to offset developing malocclusion.

3. THE PREVENTION OF DENTAL CARIES

- By (a) Diet
- (b) Mastication
 - (c) Massage of the soft parts
 - (d) Friction—Massage, brushing, floss silk, dental brush
 - (e) Lavage.

IRREGULARITIES

4. THE ESTABLISHMENT OF PEARLY TEETH AND HARD PINK GUMS

- By (a) All the previous injunctions
- (b) Polishing the surfaces of the teeth with Calcium Phosphate on an orangewood stick.
 - (c) Avoiding all colored tooth pastes, powders, washes and lotions, and especially such substances as will soften and wear the enamel.

Although it is true that many of the practises just enumerated are useful in all four of the reasons for performing oral hygiene, yet we wish to separate the different steps as Black does the steps in Cavity preparation, so as to teach the profession and public to differentiate between oral sepsis, and dental caries, or periodontoclasia, so he will set his attention to that which is most needed. Some of the most septic mouths have little or no caries and some carious mouths have little periodontoclasia or oral sepsis.

BRUSHING

Like other callings, dentistry must classify its information before its practise can be unified. It's only a few years since cavity preparation was classified. The same can be said of orthodontia. Periodontia is on the way, but some of the most useful methods of cleaning up a mouth are backed off the boards by the prominence given manufacturers' products, tooth brushes and tooth pastes. It is most amusing to watch the various methods of attracting attention to this or that tooth brush and the method of using it. There are a dozen devices for cleaning the teeth, but none seem to make headway against the brush. I have listened by the hour to most acrimonious discussions of how to brush the teeth and who introduced this or that method. Even in this day of rapid transit, dentistry is a most provincial profession. If you live in Boston and its environs you must brush your teeth by rotating the brush down over the buccal and labial surfaces of the uppers, and upwards on the lowers, using a relative small brush. If in New York and thereabouts, children are seen bucksawing a

brush back and forth large enough to hide a third of the child's face with what cannot be held in the mouth or in the next exhibit, children doing the rotary.

In the middle west, the children must *try* to shimmy, but the adults can do it. The brush is a smallish flat implement. Still farther west, there are strong advocates of brushing the upper teeth upwards, and the lower teeth downwards, as the food tends to brush them in the natural state. From a rather close observation of what is going on in oral hygiene it would seem that the size of the mouth, the arrangement of the teeth, the age of the patient, the condition of the gums and mucous membranes has little influence on the choice of the brush or the method of brushing. Every brush, no matter of what size, form or texture, is a universal brush. Some will brush only labial incisors, others only buccal surfaces, and a few only lingual surfaces, and some are designed to brush the only surface they cannot brush.

In all this mess what should we do?

Examine the patient's mouth and note the parts to be reached, select the brushes that will reach these parts and teach the patient to use the stroke which will cleanse that which you want cleansed. It may be necessary to trim some brushes to the desired form as you do your matrices or impression trays.

Rubbing or brushing the surfaces of the teeth with sticks, wood pulp and brushes is not new, nor is the use of dentifrices, as the following quotation from a dentist's sign put up in Piccadilly, London, in 1760, well shows:

And his powder named

A Dentifrice is also justly famed.

Used as directed 'tis excellent to serve—

Both teeth and gums cleanse, strengthen and preserve;

Foul mouth and stinking breath can never be loved,

But by his aid those evils are removed.

— *London Evening Post*, 1760.

Every dentist's patients can be divided into two classes, those who practise oral hygiene and those who do not. The one or the other class is large or small, depending upon the dentist's interest in the subject. Dentists have not been enthusiastically behind oral hygiene because they have been advised to tell their patients that if they brush their teeth they will not decay. This they know is not true, so they say nothing about it or feel that it is a toilet procedure much like crimping the hair and beneath their professional attention.

But, if dentists would believe that oral hygiene is a direct health measure to prevent local and systemic disease, as well as dental caries, they would get behind it and advise their patients as enthusiastically as they do in focal injection. But if they teach it to their patients as a means of beautifying them it's lost.

In closing let me give you a routine devised by Louise C. Ball, New York, which in my opinion is a distinct advance. Many dentists have put in their patients' hands in one form or another dental instruments to clean their teeth, none of these have made much headway. Dr. Ball presents a prophylactic instrument to hold a small brush, with which the patient can reach all surfaces of his teeth. This device with the tooth brush floss and massage might take the place of the hygienist.

International Dental Health Foundation for Children

755 Park Ave., N.Y.C. Telephone Rhine 2851. Director, Dr. Louise C. Ball.

NIGHT AND MORNING:

Mouth Wash: Level teaspoonful of cooking salt in a full tumbler of luke warm water.

1. First rinse the mouth with salt water to get rid of stale saliva.
2. Next hold a comfortable mouthful at least five minutes while dressing or undressing.
3. Then rinse again, and finally gargle three times to clean back of tongue, throat and tonsils.
4. Drink a glass of fresh water.

BUFF WITH COTTON WAD:

After the above rinsing, use dry cotton wad to rub over the gums, down over the teeth, to secure a bright lustre and a clean surface. Buff down the middle of the broad surface of the tooth three times. Buff down between the teeth three times; then rub across the teeth until the dry cotton squeaks. This presses all soft deposits from under the gums, removes the debris close to the gums, and massages.

TOOTH BRUSHING:

At first practise each of the four steps once a week until you learn how to do each stroke easily and well. Then do all four strokes in this order:

- | | |
|-----------------|--------------------|
| 1. The Push | 3. The Spring |
| 2. The Straddle | 4. The Down-and-up |

AFTER EACH MEAL:

AFTER-EATING-RINSE:

After you have finished eating and before you leave the table, take a small sip of any liquid—water, milk, coffee, tea, etc. Hold this for five seconds absolutely still and then swallow. Do this three times. Be sure not to gurgle the water, as this pushes the food between the teeth. Holding it quietly allows food particles around the teeth to float off into the liquid. Doing this keeps the mouth clean during the day and gives the toothbrush less to brush off at night. When the air hits the food on the teeth, the food becomes pasty and sticky. Therefore, float the food off the teeth as above. You can do this at the table without attracting any attention. Some time do this, but instead of swallowing, catch the mouthful in a glass and convince yourself of how much floats off.

CONCLUSIONS

1. The human mouth cannot be sterilized by any known means, and if it could be accomplished the practise would be questionable.
2. The establishment and maintenance of a physiological mouth should be the object of the practise of dentistry.

3. Inheritance and diet are the foundation stones of a hygienic mouth
4. Deficiency diets tend toward defective bone and tooth structure as well as vitiated oral secretions.
5. Oral hygiene is practised to prevent oral sepsis.
6. The tooth brush alone will not prevent decay of the teeth, neither will any form of dentifrice or mouth wash.
7. The size, form and texture of the tooth brush, and the character of the dentifrice or mouth wash, if any, and the frequency of their use must be decided by the dentist on the age, size, arrangement of the teeth, and the physiological or pathological state of the mouth.
8. Dentists who have not studied and practised oral hygiene over a number of years are not in a position to appreciate its merits.
9. A daily routine. Dr. Louise C. Ball.
10. Clean teeth do not decay, but teeth cannot be kept clean by the methods usually prescribed by dentists.

Slander and Libel

These are subjects almost identical. Roughly speaking, the main point of difference is that slander is spoken and libel is written—or better still, slander is in transitory form and libel is in permanent. Both are grounded on defamatory statements, which are statements holding up a person to ignominy, ridicule, reprobation or disgust. Most libel is written, most slander is spoken, but libel can also be in the form of effigies or gramophone records. Thus to place an effigy of a respected politician in the Chamber of Horrors at Mme. Tussaud's is gross libel.

However, the part which most nearly affects you in your profession is the defamatory statement which reflects upon the fitness or capacity of the person suffering such statement in his profession or trade or in any undertaking assumed by him. For a man is brought into contempt or disesteem if he is charged with professing to do work for which he is unqualified. Thus it is actionable to say of a solicitor that he is ignorant of law, or to say of a physician that he has ill-treated a patient, or of an artist that he does bad work. Incidentally, I may point out that if you call a man a "liar," that may be slander. If you call him a "damned liar," that is not slander, but is held in law to be a particular term of abuse. The main point about defamation is that the defamatory statements must be published. That is to say, they must be made to a party other than the party defamed. Thus, if a man comes to me and says "you are not a solicitor," this is a defamatory statement, but inasmuch as I am the person defamed and I am the only one who has heard it, I cannot proceed. If, however, he makes that statement to my servant, that will be slander. In questions of libel, damage has not got to be proved. You can get a verdict for general damage on proof of libel alone. With slander, however, being in a more transitory form than libel, which is fixed and permanent, you cannot get damages, generally speaking, without proving special damage. That is to say, you have to show the jury actual financial loss such as loss of position, loss of prospects, etc. There are one or two cases, however, even with slander, where you need not prove special damage, and the slandering of a professional or business man in the way of his profession or business is one of them. But remember about this subject that justification is a complete answer. That is to say, if the person making the statement proves that his

statement is true, then the other person cannot get the verdict, however much actual damage he has suffered. There are occasions when persons may make defamatory statements about others without fear of the consequences, because such cases are privileged. Thus, if you have a qualified assistant and he leaves you and his prospective employer writes to you for a reference, you are perfectly at liberty to write whatever you like on that reference concerning your former assistant's qualifications or lack of them without fear that he will sue you for damages for libel, but always provided that your reference is written honestly and without malice.

RESPONSIBILITY FOR FEES

The subject of responsibility for fees is one which is often troubling the professional man. To whom is he to look for his fees—husband, wife or children? The chief point of difficulty arises in the case of husband and wife. According to the present law one gives credit to a married woman at one's peril. The mere fact of marriage does not *ipso facto* make a wife the agent of her husband for the purchase of goods and the ordering of services, so as to make her husband liable therefor. The husband is liable in the following cases:

(1) Where he does not make his wife an allowance she may pledge his credit for necessities—goods or services—and this holds whether he lives with her or not.

(2) Where the husband has previously met his wife's bills with the particular tradesman or professional man. By such an act he holds her out to be his agent to pledge such credit.

The husband, however, is not liable in the following cases:

(1) Where he makes his wife a sufficient allowance and does not ratify any of her debts or hold her out to be his agent by paying her debts.

(2) Where he has deserted her and has made her a sufficient allowance.

(3) Where he has expressly forbidden people with whom she has previously dealt to give her credit.

The unfair part of the law so far as the professional man or tradesman is concerned is that he deals with a married woman at his own risk and he is presumed in law to know what the private arrangements between husband and wife are with regard to allowance. As a practical proposition of course it is impossible to question on this point every married woman with whom one comes in contact, and, personally, I would rather forego occasional fees than have such a demand made on my powers of tactful expression. To take a concrete case—a married woman comes to your practice and requests your services for herself and children. The services are rendered and you have made no inquiries as to who is responsible for your charges. You send in your bill to the husband. In most cases he will pay. Occasionally he will not and will inform you that he is not responsible for his wife's retainer of your services. In these circumstances you will generally have to look to the wife for payment unless you have personally done work for her and the husband has met your bills, or you can prove to the Court that such services as you rendered were necessary to the health of the patients concerned and the husband has not made the wife a sufficient allowance for the payment of such in respect of herself and her children.

With regard to children—the parents are not responsible for their debts and contracts unless they have held out the children as their agents or have paid their debts or acknowledged their contracts in the past. This is so even in the case of necessities.

Focal Infections

A. F. R. Audressen, M.D., New York.

In judging the value of the removal of focal infections in chronic gastro-intestinal infection, most clinicians seem to have rather jumped at conclusions. Those who condemn the procedure as useless are those who have not followed out a thorough, systematic "cleaning-up" process. I frequently see patients who have had all teeth extracted without result and whose tonsils are reeking with pus; and others whose tonsils have been removed, but whose sinuses are badly infected. It must be remembered that unless all foci are removed, no results can be expected, as the secondary infection is not due to the size of the focus or the quantity of material absorbed. Chronic infections in the teeth, tonsils, nose and accessory sinuses, ear, bronchial tubes, male and female pelvic organs, urinary tract, skin, bone, or soft tissues must be eliminated. In the case of the teeth, while the X-ray finding of peri-apical rarefaction is of importance, I have frequently found that the leaving in of pulpless teeth which showed no such rarefaction resulted in recurrences which were promptly and permanently relieved on extracting such pulpless negative teeth. My rule now is that every pulpless tooth shall be extracted, and that this shall precede the removal of the infected tonsils. I have frequently seen very distressing exacerbations of the gastro-intestinal symptoms, in one case perforation of a duodenal ulcer, where tonsils were removed before the infected teeth were extracted. The tonsillectomy removes an intermediate barrier between the teeth and the general circulation. Infections in the uterine cervix or the prostate, and ischio-rectal fistulae may often be overlooked as foci.

In my experience, based on a careful study of 1,500 cases, only about 10% of patients with chronic gastro-intestinal infection showed other symptoms affected, 5% showing cardiac lesions, 4% kidney infections and less than 1% joint symptoms. Nearly one-half of the patients showing these complications were those diagnosed as peptic ulcer, chronic appendicitis cases constituting one-fourth, and cholecystitis less than one-fifth, of their number. In a large proportion of cases, the removal of focal infections cleared up not only the gastro-intestinal infection, but also resulted in the disappearance of heart-murmurs and of evidences of other complications.

Ethics of Dentistry

Dr. W. G. Thompson spoke to Hamilton Rotarians the other day on the subject of professional ethics, paying special attention to the much-discussed question of advertising by dentists. "In the main, it is the quack who resorts to advertising," declared Dr. Thompson, and proceeded: "It would be no exaggeration to say that there has never yet been a single case investigated in Ontario of an advertising dentist giving honest, adequate service; he was deceiving or deluding in some way. The

opposition among self-respecting professional men to individual advertising is deep-rooted and universal." This is a strong statement, but it is accompanied by an explanation which makes the position of the speaker and the business relationship is emphasized. The dentist, like the doctor and the lawyer, has nothing to sell but his service. If service is put first, as it should be, considerations of financial reward cannot be thrust to the front. It is to degrade the profession to make it a mere matter of dollars and cents. If a practitioner is skilful he will attract a clientele without resorting to advertising methods. "Good wine needs no bush." Similarly, the practice of splitting fees which sometimes obtains between the doctor and the specialist is condemned as leading to sordid transactions, difficult to resist.

Dr. Thompson's address shows very clearly the high plane on which the profession of dentistry is conducted in this province. It has gained the respect and confidence of the public and is rendering a service of incomparable value to the community. The object of those who are responsible for the conduct of the profession is to ensure that it is kept rigidly to its high standards and that no deterioration of any kind is permitted to creep in. In thus maintaining the status of the profession, dentistry not only serves its own best interests, but the best interests of the public as well. The important part played by the teeth in the health and comfort of the individual is only now beginning to be realized. Tremendous advances have been made of recent years, and there can be no doubt that the future will bring forth still greater improvements. It is essential that the ethics of the profession should receive equal attention with the progress of the science.

Vigor, vim, vitality and punch,
 That's pep,
 Courage to act on a sudden hunch;
 That's pep,
 The nerve to tackle the hardest thing,
 With feet that climb and hands that cling,
 And a heart that never forgets to sing,
 That's pep.

Sand and grit in a concrete base,
 That's pep,
 A friendly smile on an honest face,
 That's pep,
 The spirit that scatters the darkest frown,
 That knows how to help the other fellow when he's down,
 That loves his neighbor, and loves his town,
 That's pep.

To say I will! when you know you can,
 That's pep.
 To look for the best in every man,
 That's pep,
 To meet each thundering knock-out blow
 And come back with a smile, because you know
 You'll get the best of the whole darn show,
 (And believe me, boys)
 That's pep.

—Poem by Claudia Bostwick.

Report of the Canadian Dental Research Foundation

In presenting a report covering the activities of the foundation during the past two years, I would like at first to refer to the meeting of the Board of Directors held at Toronto in 1922. The Executive have endeavored, as far as possible, to comply with the recommendations made at that time. Bulletin No. 7, on Dr. Box's latest work, was mailed last June to every dentist in Canada, and it is intended to do this with all future bulletins, except those purely of interest to the research worker. If sufficient funds can be secured, we hope to send out revised copies of the most practical of the previous bulletins, especially those relating to full and partial denture construction.

At their meeting in 1922, the Dominion Dental Council voted the sum of \$600.00 to the Foundation, stipulating that it be used in aiding research work in the Dental Colleges of the agreeing Provinces. After correspondence with these Colleges, it was decided to divide this sum equally between Dalhousie Dental College and the Royal College of Dental Surgeons, as the others intimated they were not yet ready to undertake research work. The Foundation advised the Dominion Dental Council of this appointment, and are looking forward with the anticipation of receiving this grant in order that it may be made available for this purpose and thus carry out the intentions of the Dominion Dental Council.

Two bulletins have been issued since the last meeting. No. 6, "Combinations as an Aid in the Discovery of Fundamentals in Dentistry and Other Sciences," by W. E. Cummer, revised by Professor G. R. Anderson and R. J. Reade. As this bulletin is of interest chiefly to the research worker, it was not given general distribution.

Bulletin No. 7, "Studies in Periodontal Pathology," by H. K. Box, including a study on the mechanics of occlusion by Professor G. R. Anderson. This bulletin covers the latest work of Dr. Box and has attracted widespread attention. A copy has been sent to every dentist in Canada, and as a large number of requests have been received from the United States and other countries, copies are supplied to them at a charge of \$1.00 per copy to cover the cost of printing.

Three more bulletins are in the course of preparation:

No. 8—"Articulation for Partial Dentures with the Snow Apparatus and the Wadsworth Incisor Guide," by W. E. Cummer. This is a very practical bulletin, and it is intended to send it to every dentist in Canada. It is hoped to have a supply available for distribution at this meeting.

No. 9—"Combinations which occur between the Upper and Lower Six Posterior Natural Teeth, in Occlusion," by Dr. W. E. Cummer. This bulletin is supplementary to Number six, and as it is only of interest to the Research worker, only five hundred copies will be printed and supplied to those interested on request.

The total subscriptions to the Trust Fund now amount to \$15,204.51, of which \$13,639.51 is paid up. Some recent subscriptions are:

British Columbia College of Dental Surgeons	\$ 100.00
British Columbia Dental Association	100.00
Alberta Dental Association	200.00
Subscriptions from Saskatchewan dentists	832.00
Manitoba Dental Association	200.00
Ontario Dental Association	1,000.00

R. GORDON McLEAN, *President.*

SOCIETIES

The International Dental Health Foundation of New York has approached the Dental Board of the United Kingdom with a view to enlisting its co-operation in a scheme for an "International Dental Health Day," to be held on May 1, 1926. The co-operation of the Canadian Dental Hygiene Council has already been secured, and overtures are being made to the French and other European societies. The American Foundation concerns itself principally with the dental health of children, and the scheme includes the award of prizes to those schools which show the highest percentage of dental health. Every dentist is being asked to give up one day's work to the task of examining school children's teeth.—*British Journal of Dental Science.*

Canadian Dental Association

The Canadian Dental Association meets in Halifax August 16, 17, 18, 19. If you want to find out the best means of travel to this meeting, write to C. A. Kennedy, 86 Bloor Street West, Toronto.

American Dental Society of Europe

The next meeting of the American Dental Society of Europe will take place at Nice on April 5th, 6th, and 7th, 1926.

Dental Nurses' Association

The Fourth Annual Convention of the Dental Nurses' Alumnae will be held at the King Edward Hotel, May 18th and 19th, 1926. A splendid programme is in preparation which will surpass any of the previous efforts of the Association. All Dental Assistants are cordially invited and will be most welcome. Information may be secured from the following:

President, Miss G. Whitehead,

Secretary, Miss H. Rose, 240 College Street.

Edmonton Dental Society

February 26th, 1926.

Owing to some of the men being unable to turn out on Tuesdays, we are holding the meeting of the Edmonton Dental Society on WEDNESDAY, MARCH 3RD, instead, at the Macdonald Hotel, 6.15 p.m.

Drs. Gilchrist, Roberts, Janes and Mercer are taking up "Impression Taking," going into "technic of compound and combination of compound and plaster both for full cases and partials."

This should be a good topic for discussion. We need a good number to make it go, so try to be with us.

S. ALEX. GEMEROY,
Secretary.

Edmonton Dental Society

The Regular Monthly Meeting of the Edmonton Dental Society will be held on Tuesday, February 2nd, at 6.15 p.m., Macdonald Hotel.

Dr. M. M. Dunsworth, Dr. Rooney, Dr. Eastwood and Dr. Carmichael are handling the subject of "Orthodontia".

This subject is one that has its own teachers, institutions and literature. We can safely say it is on as scientific a basis as any department of Dentistry, yet scant attention is given to it. When you consider that it is stuck on the tail end of a paper in Prosthetics by our D. D. C., and only 25 marks are allowed as its share, we need a little revival on "Orthodontia".

At the last January meeting, one-half of an hour was set aside from this coming meeting for the discussion of our School Clinic by those interested.

Wm. Lees appealed this week for permission to go to the Privy Council. The Appellate Court refused his request until the Naden Case, now before the Privy Council, is decided. There is a marked similarity between the two and one bears closely on the other.

Alex. Gemeroy,
Secretary.

Annual Convention of the Ontario Dental Association

The Annual Convention of the Ontario Dental Association will be held at the King Edward Hotel, Toronto, May 17, 18, 19, 20, 1926. An excellent program of essays and clinics has been arranged and a special effort has been made to provide material that will be of practical use in every day practice.

The Committee in charge is extremely anxious to have a large advance registration and the preliminary program with the registration form will be contained in the March number of "The Booster". In case a dentist registers and then finds that he cannot attend, the fee will be returned. The Association is anxious to have a complete mailing list and the secretary would like any dentist who is not receiving the Booster to send his name and address to him at Spadina House, Toronto 5.

Dentists practicing outside of Ontario always receive a cordial welcome at our meeting.

Fred J. Conby,
Secretary, Ontario Dental Association,
Spadina House, Toronto 5.

See Canada First

The Canadian Dental Meeting for this year will be held in Halifax August 16-19 and promises to be the best that ever has been given. The programme is being put into good shape and a large crowd is looked for.

An excursion is being planned to go down to the sea, by rail and boat, and enjoy stop-over privileges at the most interesting and historical points.



4. In the vicinity of Halifax, N.S. 6. George Island, Halifax Harbor.

There will be a number who will wish to motor to Halifax, and for their benefit a tour has been mapped out whereby they may enjoy the beautiful landscapes and see the cities and towns by the way.

Touring from Toronto to Halifax on Government Roads.

	Miles		
Toronto to Prescott	226—	Van Buren to Woodstock	85— 842
Prescott to Montreal	126— 352	Woodstock to Fredericton	65— 907
Montreal to Quebec	180— 532	Fredericton to St. John	68— 975
Quebec to Riviere Du Loup ..	121— 653	St. John to Moncton	92—1067
Riviere Du Loup to Van Buren	104— 757	Moncton to Truro	131—1198
		Truro to Halifax	65—1263

The Government Roads through Ontario and Quebec along the beautiful St. Lawrence River through Montreal, Quebec, Point Levis and Riviere Du Loup are very good and the scenery beautiful.

The St. John River is the largest river in New Brunswick and the scenery is unsurpassed, and to the lover of Nature it is a "Paradise." The towns of Edmundston, Woodstock and Fredericton are all interesting, and to the tourist are situated among picturesque and scenic wooded areas along the many streams which abound in this province.

Through Nova Scotia there is always something of interest turning up and the drives through the Annapolis Valley and the Land of Evangeline will well repay all who go down by motor.

The return trip may be made from St. John along the Atlantic Coast and on through New Hampshire, Vermont, the White and Green Mountains skirting Lake Champlain, through the Adirondacks, and on to the Canadian border.

C. ANGUS KENNEDY,

86 Bloor St. W., Toronto.

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TORONTO, MARCH, 1926

No. 3

The Dominion Dental Council of Canada

During recent years there has been some discussion of the Dominion Dental Council, much of which is unfair, some well founded, but not politic, and the balance very cogent. In this and subsequent issues we intend to bring together in very plain language what in our opinion is in the best interests of national dentistry. We shall be glad to publish opinions which are helpful in the attainment of our objects under correspondence.

The Dominion Dental Journal has more than a passing interest in the affairs of the Dominion Dental Council of Canada. It has a keen interest in the Canadian Dental Association. These interests come legitimately because it was through the efforts of the DOMINION DENTAL JOURNAL that the dentists of Canada came together in Montreal in 1902, and out of this meeting grew both organizations.

When the final agreements established the Dominion Dental Council no organization regretted as deeply as the DOMINION DENTAL JOURNAL the failure to include within the agreeing provinces Quebec and British Columbia. It was fitting that the first meeting of the Canadian Dental profession should have been held in Montreal, where Canadian dental journalism had its birth and where the national game of lacrosse was founded by a dentist and where the devitalization of dental pulps with arsenic was first practised, and where the two great races of Canada are

working so intimately together to build a nation. The secretary of the first meeting and the DOMINION DENTAL JOURNAL undertook to bring the dentists together, which they did, but took little part in the general details of the organizations growing out of the meeting. Later on Dr. J. B. Willmott and the editor of the DOMINION DENTAL JOURNAL were made consulting members of the council. Because of this intimate association with the council and because of the sound principles underlying its organization we watched its doings with a jealous eye. We hoped that through passing years both British Columbia and Quebec would join the council. British Columbia did join for a few years and then withdrew. Quebec has shown very little interest during recent years. The great central province of Quebec, containing the largest city of the country and the virile population of French extraction, should be among the leaders of dental legislation and organization in Canada. With all due respect to the members of the Council past and present we are of the opinion that the dentists of Quebec are as much interested in their professional advancement as are the medical profession of that province, which has joined the Dominion Medical Council. The Dominion Dental Council cannot get on successfully without Quebec and British Columbia. Neither can these two provinces get on without the Dominion Dental Council, nor can Canadian dentistry measure up to its proper standard without a unity of purpose in dental education and legislation.

Instead of getting closer together in the passing years the gulf is getting wider. There were local reasons why neither provinces entered at first, but these have changed many times since.

Without remembering for the moment who were the ambassadors to both Quebec and British Columbia we must say now that they failed judging from results. Both provinces have problems different from the rest and until this is appreciated no progress will be made. There has been too much sitting back waiting for the other to take action. The first step is to get the good will of these provinces and then get a Dominion Dental Act similar to the Medical Act. It must not be thought there can be any compulsory legislation passed at Ottawa, but a Dominion Act will carry a good deal more influence than a delegated organization without act or charter. If British Columbia accepts for license only those holding Dominion medical certificates there must be something wrong with the dentists of British Columbia or the Dominion Dental Council, when the former will not admit D.D.C. certificates on a par with their own. Critics of the Dominion Dental Council must not think that any province can be forced into the union. But a Dominion Act gives the doubting province the assurance that its interests will be protected by the Dominion government.

The Dental Nurses' Course

There have now been upwards of a hundred young women trained in dental nursing in the training school for Dental Nursing at the School of Dentistry of the Royal College of Dental Surgeons of Ontario. About twenty of these have married, and less than a half dozen are out of professional employment. It is estimated that there are a thousand women

employed in dental offices in Ontario, so the sixty or seventy graduate dental nurses does not fill the demand. When the course was begun both the nurses and the profession of dentistry expected too much. The nurses thought they were competent dental nurses when they graduated, and the dentists thought they were employing young women who were at once stenographers, bookkeepers, housekeepers, prosthodontites, anaesthetists, and chairside assistants. When they were not any or all of these the dentist was dissatisfied and the nurse disappointed. Time and a better adjustment of the course have remedied many of the original defects.

The Board in its wisdom increased the standard of matriculation. The higher matriculation standard brought High School girls who are so young that they have no experience in many of the essential requirements of a dental nurse which the faculty can never be competent to teach.

A nurse must be under a directing mind. Submission to such direction is not inculcated by higher education as understood in High schools or Universities—the very opposite is the purpose of such education. It is impossible for a dental staff to teach good housekeeping, which is an important accomplishment. Faithfulness, the acceptance of responsibility, and divining the thoughts of others, cannot be inculcated in seven months.

Age and experience in these accomplishments should be accepted in lieu of higher scholastic attainment. Two years of High School with a good housekeeper's training and twenty-one years of age should be the equivalent of graduation from a high school and nineteen years of age. A girl with a business training who is a good housekeeper and born of good parentage should make a better dental nurse than a graduate from a high school not possessing these qualifications.

The fact of the matter is, no young woman, no matter what her general education may have been, can in seven months become a competent dental nurse. If she should become competent in one department and had a general knowledge of the balance it would be a wonder. Too often the nurse gets employment in an office where her services are chiefly required in a department in which she is the least competent.

As the course is now arranged it is impossible to give the nurse enough practical experience in a dental office or in public health dental service to warrant giving her a graduate dental nurse's certificate.

The course should consist of two semesters of four months each, one in each of two years, with six months compulsory pupilage in a dentist's office. Three months of the pupilage should be spent in an office where a graduate dental nurse is employed, or an assistant with five years' experience. The preceptors' report should be an essential part of the requirement for graduation.

Such a course or some modification of the principle of practise and theory running hand in hand and the longer period would raise the standard of dental nursing, and permit those with four months training to take a position without graduation. The second semester might be given over to training in special departments. The course might be begun either in the autumn or mid-winter. It would cost less and supply the dentists' needs better. No dentist wants a green girl to train, so he might take a girl with the short training.

Dr. W. G. Trelford gave a course of lectures on Periodontia to the members of the Virginia and Carolina Dental Association in January, 1926.

A Bureau of Information

During the past year we have published two or three letters on "A Bureau of Information." There would seem to be a general notion that dentistry is practised in a rather blind sort of way. Little is actually known of the true properties of many of the materials on the market for dental use. It is suggested by our correspondents that there should be a bureau of information where one could write and get a correct statement of the value of every material and method of practise for the asking; or, better still, such information should be issued broadcast in the form of bulletins. All of this is very desirable, but the difficulty is to get any organization strong enough to undertake the project. The American Medical Association has practically put the quack medicine off the market in America. It has ostracized every quack medicine and proprietary remedy and pointed out many of the claims of cures as being erroneous.

The United States government at Washington has a bureau of standards and a department of research in connection with the purchasing department. Over 11,000 articles have been examined and now are bought on specifications. In the provincial secretary's department in Toronto the many articles which they purchase are bought on specifications. There is a very great saving by this method. If gasoline is purchased on a certain Sp.G. there is no high pressure salesmanship required. No attractive packages, no expensive trappings. It is all a question of price, as the quality has been predetermined.

It is to be noted that there is no general distribution of the information on which purchases are made. If a bureau of information in dentistry could tell the profession what the specification should be for a silicate or an amalgam, and the profession could get it manufactured, the price would be much less than now, because of the less cost in getting business, large distribution at low cost, simplification of manufacture, no adulteration and sales cost.

Notes

An American medical man says "we continue to dig our graves with our teeth."

Dr. A. W. Leard, Summerside, P. E. I., spent a week in Rhode Island, visiting his daughter.

Dr. F. A. Taylor, Moncton, is giving two hours each week to care for the teeth of the poor.

The Ontario department of health has set apart Wednesday, October 20th, 1926, as dental health day.

Dr. Roberts, M. H. O., Hamilton, Ontario, says there should be three dental centres in Hamilton instead of two.

Dr. W. J. Wilkey, London, Ontario, has been suffering for months from infected glands, but is now on the way to recovery.

The Lions Club of Grimsby, Ontario, passed a resolution advocating the establishment of a dental clinic in the schools of the town.

The school board of Barnwell, Alta., are asking the legislature for financial assistance for dental services to be given to the school children.

Will someone modestly tell the dentists of Ontario that our cousins to the south of us are in danger of losing their position in claims of priority.

Dr. Frank Boyaner, St. John, N.B., attended the International Convention of the Alpha Omega Dental Fraternity in Toronto at Christmas time.

Dr. W. R. Wilkinson, Edmonton, addressed the local society on the subject of gold foil filling, a method of practise coming back into more general use.

When one sees attempts made to preserve hopelessly infected teeth there lurks a suspicion that the expectant fee has something to do with the undertaking.

Dr. L. R. Scholes, a member of the staff of the University of Sidney, Australia, is taking a post graduate course in the Dental Faculty, University of Toronto.

Dr. Saul Simon is the Supreme Officer of the Alpha Omega Dental Fraternity and Macer of the 18th convention, which was held in Toronto during the Christmas vacation.

In dentistry the wealthy patient often has operations performed which are a menace and the poor lose their teeth when they need them most. Only the middle classes are safe.

Dr. R. N. Berry, M.P.P. for Haldemand, Ont., seconded the reply to the speech from the throne in the provincial legislature. He suggested that the government might very well establish a chair of dental research.

The Vancouver "Sun" says that dentists and physicians are educated by the State. Why not make them civil servants of the State? Anyone who takes a dental course knows how much assistance they get from the State.

We would respectfully suggest that the title of the "Booster" be changed to the "Advance" or "Enterprise," or any name that would indicate that the society which it represents does not wish to be indelicately promoted.

A restaurateur of Chicago fed two pigeons in his window as an advertisement, one on white bread and the other on oatmeal bread. The one fed on white bread alone almost died while the other continued to enjoy life. The humane society put a stop to the advertisement. A news article said that no one now claims white bread to be a whole food, but just when oatmeal became a whole food is not generally known.

The dental profession of England are in a great quandary as to the advisability of public advertising of the need of taking care of children's teeth. Many think it should be by direct contact rather than by newspaper advertising.

It is rather a strange thing that so few dentists and their friends remember dentistry in their wills. Many wealthy people establish researches, scholarships, chairs and lecture courses in all kinds of subjects, but not in dentistry. Why?

It would appear from press reports that Alberta is not the only province in which dentists have been employing unqualified assistants to work at the chair. A Dr. Gross, Montreal, has been employing a Mr. Lafontaine to work for patients and now finds himself in court.

In medicine and surgery it is often said that the poor get the best services and that the middle classes cannot get good services because they cannot afford to pay for the highest skill. The very wealthy often have services pressed upon them which they would be better without.

Dr. C. N. Johnson spent a few hours in Toronto when he was on his way to the funeral of his father at Blackwater, Ontario. Dr. Johnson's father was one of those sturdy Canadians who took his part in laying the foundations of our country in both material enterprise and family greatness.

Splendid progress is being made in preparation for the next meeting of the Canadian Dental Association which is to be held in Halifax, August 16—19. A number of dentists have already made arrangements to visit the maritime provinces by motor from Ontario and Quebec. The meetings will be held in Dalhousie University.

Dr. A. Primrose, Dean of the Faculty of Medicine, Toronto, notices three distinct phases in the evolution of scientific methods as applied to medicine.

1. Accuracy of observation.
2. The experimental method introduced by Harvey.
3. The utilization of discoveries made in the field of pure science.

A Toronto Daily Star contributor says his family dentist's bills were for a period of six years, \$911 and for the same period the medical bills were \$742. He wants to know why it costs more to keep the teeth in order than all the other ailments together. While there is some relationship between good teeth and good health, there is not so much as to make a comparison of the legitimacy of the charges. Doubtless that during the same period it cost more to keep their feet in good condition than their teeth.

The White Rock, B. C., Gazette is using its editorial space to induce its readers to go to a certain dentist. The editorial says that Dr. So and So has adopted "the latest and most approved methods." How does the editor know what are the latest and most approved methods. No dentist, much less a layman could truthfully say what are the latest and most approved methods of dental practise. It looks very much as if the editor was being paid for a recommendation which was not worth very much. But the unfortunate part is the public does not know it.

The biologist has found that many people who multiply the most have not sufficient intelligence to add.

A study of one hundred cases of diabetes in a Philadelphia hospital would indicate that infected teeth make the disease worse.

Dr. H. M. Wilkinson, Macklin dentist, was interdicted for two years when he appeared before P. W. Eyre, J. P., at Macklin, January 15. Dr. Wilkinson was convicted in 1918 for vagrancy; in 1921 for violation of the Saskatchewan Temperance Act; in 1922, for common assault when he was interdicted under the S. T. A.; in 1922, for violation of the S. T. A., and again in 1924 for vagrancy.

There is organized in Quebec the Dental Progress League, which has for its object the introduction of a bill in the legislature permitting dentists to advertise in the press. They claim that the Dental Board are unable to prevent advertising and that their attempts to control it is costing the members of the profession large sums of money in assessments. This looks like a subtle scheme to open the gates to unethical advertising. Ontario has in the last few months succeeded in preventing vulgar, unethical advertising which is unbecoming of a profession.

It would appear from reports that there has been a health centre in the Saanich district, B. C., in which the school children received dental services. The dental equipment was supplied by one of the parent associations and the children were transported from the schools to the health centre at the expense of the centre. The trustees refused to allow the children to be sent to the centre and are asking the people for money to establish clinics in the schools of the district. The ratepayers complain that the additional cost is unnecessary and besides more expensive and less efficient than the health centre scheme.

Proposed amendment to the Dental Association Act, Alberta: Section 42 is added to the said Act as follows:

"42. Nothing in this Act shall prevent any person from taking the impression of gums and making or fitting plates and false teeth, if such person has, prior to the first day of March, 1926, been employed for that purpose by a member of the Dental Association, or passes such examination in the fitting and manufacture of false teeth as may be prescribed by the Senate of the University of Alberta."

This proposed amendment is very suggestive. It implies that members of the Association have been employing unqualified persons to take impressions and make dentures for patients. The passing of an examination set by the university seems quite reasonable, but just how this scheme of legislation will reduce the cost of prosthetic dentistry and maintain its efficiency is difficult to understand.



CORRESPONDENCE

A Treatment for Pyorrhea

75 St. Paul St., St. Catharines,
February 14, 1926.

Dear Dr. Webster:—

During the last few years a great deal of attention has been given to Pyorrhea and the treatment of the disease.

In all cases with the specific advertised the treatment extends for months.

The average dentist cannot or will not take the required time for such extensive treatment.

In trying various drugs and noting their action on patients with pyorrhea, I found that the use of aromatic sulphuric acid produced results that I never dreamed of obtaining. My method of using is as follows:—

A thorough scaling using campho phenique and cocain to dip my instruments in. Follow up with aromatic sulphuric acid worked under the gum around the tooth with an orange wood stick. Two treatments will eradicate the disease in most cases.

Dr. Currie came to me over a year ago with a lower lateral badly infected. Pressure on the inside of the tooth caused pus to flow on the outside. He was treated twice, one day intervening between treatments. The flow of pus stopped with the first treatment and has not returned for over a year.

George Tees, C. P. R. agent had two lower laterals affected. One cleaned up with two treatments, the other returned in about a month necessitating two more. It is a year since he last reported. He says his teeth are fine—no soreness and no discharge.

This may not be a new treatment, but I have never seen it advertised I think if it were published it would help the average dentist over a heart-breaking place in his practice.

Yours truly,

P. G. Somerville.

Toronto, Ont., Dec. 23rd, 1925.

Editor Dominion Dental Journal,

Toronto, Ont.

Dear Sir:—

Having noticed your article on 'The Legion of Honour Comes to Canadian Dentistry' might mention that there is graduate of the R. C. D. S. also a member, namely, Lauder Hipwell, 91 Champs Elysee, Paris, France.

Yours sincerely,

Leon Hipwell.

Will of the Late R. G. McLaughlin, Toronto

Real and personal property valued at \$134,862 are disposed of by the will of Richard G. McLaughlin, dental surgeon, who died in Toronto, Dec. 22, last. The personalty, listed at \$112,862, includes \$78,185 secured by mortgages, \$24,533 in stocks, \$5,825 cash. The real estate consists of 54 College street, valued at \$20,000, and an island at Honey Harbor, \$2,000.

He left the dower in his College street property, the island at Honey Harbor and \$37,000 to his widow, Mrs. Sarah McLaughlin; \$2,000 to his sister-in-law, Miss Margaret Carter; \$5,000 each to his six brothers, and the residue to the Upper Canada Bible Society and the Hospital for Sick Children.

Norman Cameron Dies Suddenly

With great regret we announce the sudden death of Mr. Norman M. Cameron, brother of Will J. Cameron, the well-known inventor and manufacturer of diagnostic and operating equipment.

Norman Cameron was a Canadian and one of the best-known and most popular young men in his particular field. A brilliant sales executive, he was at the time of his death in charge of Pacific Coast sales for the Cameron firm.

W. E. Wray, D.D.S., Toronto

After a brief illness, Dr. William Elphinstone Wray passed away yesterday morning at his home, 32 Constance Street.

The late Dr. Wray was born in Waterloo County, a son of Mr. and Mrs. George Wray. He was educated at Kitchener High School and the Ottawa Normal School, later becoming Principal of one of the Kitchener public schools, which position he held for 10 years. In 1905 he received a D. D. S. at Buffalo University, and afterward, until 1909, practiced dentistry in Franklinsville, New York. In 1910 Dr. Wray came to this city, and took an L.D.S. degree at the University of Toronto.

Dr. Wray was a member of Howard Park United Church. Howard Park Brotherhood, University Lodge, A.F. & A.M., the Orange Order, High Park Club, Howard Park Bowling Club, the Weston Golf Club, and the Toronto Male Chorus.

He is survived by his widow and four sons, William Kenneth, George Stanley, John Emerson, and Lorne Wray; one daughter, Irene; and two brothers and two sisters.

DENTAL MECHANIC wants position in Canada; 11 years' experience, 6 Scotland, 5 U.S.A.; plate or gold; can assist at chair. J. Davidson, 707 E. St., Lawton, Okla., U.S.A.

BURS RECUT 25c. PER DOZEN—Doctor: If you want real workmanship mail your old used burs for recutting to the well known **QUALITY Bur-Recutters, Sheun & Co., 602 Oakwood Blvd., Chicago, Ill.,** Established 1906—Many testimonials on hand.

FOR SALE—Dental practice in large Manitoba town. Well appointed office; up-to-date equipment; good reasons for selling. Price very reasonable. Fine opportunity for good steady man. Box 35, Dental Journal, 73 Richmond West, Toronto.

DENTAL PRACTICE FOR SALE—Modern equipment. Best city in Niagara district a going concern; best reasons for selling. Box 36, Dominion Dental Journal.

SINCE 1870

Since 1870 Fletcher's Carbolized Resin has been used by the Dental Profession.

Just think of it. For 56 years, dentists everywhere have been depending on this simple remedy and it has not failed. If it had, it would not have lasted 56 years.

As a substitute for Creosote it is ideal, being more easily handled and less disagreeable to the patient. It is also a reliable styptic in cases of obstinate bleeding.

We compound Carbolized Resin in small quantities to insure freshness, put it up in generous sized bottles and sell it for 60c. through your Dental Dealers. Full directions in every box.

Always ask for "FLETCHER'S CARBOLIZED RESIN."

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Dominion Dental Journal

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No. 4

ORIGINAL COMMUNICATIONS

President's Address, Annual Meeting of the Canadian Oral Prophylactic Association, 1925

W. C. TROTTER, B.A., D.D.S., L.D.S., TORONTO

Gentlemen:—Again it is my privilege and pleasure to renew the pleasant associations which have prevailed among many of us for more than twenty-two years, and for the third time it is my pleasant duty to present to you the President's annual address. Last year I explained the organizing of the C.D.H.C. and the obtaining of a Dominion Charter and I also detailed the unavailing efforts of the Council to obtain a money grant from the Dominion Government.

This past year has seen the continuation of these efforts on a more comprehensive scale. The services of our dental executive, Dr. Harry S. Thomson, were loaned to the C.D.H.C. for this work and he made an extensive trip embracing the more important cities of Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia in an effort to enlist the active sympathy and support of the dentists in the work of the C.D.H.C. In this way decided personal pressure was brought to bear upon the various cabinet ministers at Ottawa, and several of them assured us that there was every probability that provision would be made in the estimates for a money grant to the Council, but alas when the Supplementary estimates were finally presented to the House the name of the C.D.H.C. was conspicuous by its absence. However during the visit of Dr. Thomson to the various cities of Canada he had the opportunity of co-operating with the dentists at the various points visited, and by means of lectures and addresses to service clubs, women's clubs, schools, etc., he has been able to greatly advance the work of public dental education in Canada. Apart from these results I do not look upon these efforts as waste of either time or money because the sympathy and co-operation of many prominent men both within the ranks of the profession and of the laity have been permanently enlisted on behalf of Public Oral Hygiene work throughout the Dominion of Canada.

Since the House at Ottawa dissolved last summer the C.D.H.C. has considered the time inopportune for making any further appeals to Ottawa for financial help until a stable government is established. In fact the opinion is rapidly gaining ground that it would be wiser to ask for the appointment of a Dominion Dental Health Officer than to ask for money. It has also been thought unwise to solicit subscriptions from the public until we have evolved some definite programme of public work which would strongly appeal to the public mind as being urgently necessary.

The examination and care of the mouths of immigrants arriving in Canada has been suggested as an important work along this line which might appeal to the Canadian public as being worthy of their support. It will, however, be first of all necessary to gather together statistics and proof to show that this is a worthy object and that there is a genuine need for the work.

The C.D.H.C. is now taking steps to secure this information and hopes to have the co-operation of our dental executive.

If Dr. Thomson's services are still to be generously put at the disposal of the C.D.H.C. I may say that in future a committee consisting of the chairman and secretary of the executive, together with another member of the executive (in this case Dr. R. J. Reade), will consult with Dr. Thomson and direct and lay out his duties and work.

At present I cannot see how the C.D.H.C. is going to be in a position to engage the full time services of a permanent Field Officer for several months to come. Of course if the Council is able to persuade the Dominion government to appoint a permanent Dominion Dental Health Officer they would urge the appointment of Dr. Harry S. Thomson to that position.

So much in explanation of our relations with the C.D.H.C., and now a few remarks about our financial position, which is largely explained by the secretary-treasurer's report and the report of our dental executive. Owing to a combination of circumstances the revenue from the sale of brushes has fallen off so badly that our statement shows a loss for the year. The keen competition in the brush market, together with Mr. Hargreaves' unfortunate illness and absence from business, explains this situation. An agreement with one of the oldest and most reliable brush manufacturing concerns in Canada is practically completed whereby our brushes in future will be made right here in Canada by Canadian workmen. The firm I have reference to is the Stevens-Hepner Co., of Port Elgin, Ontario, which has a large factory well equipped with the very latest machinery for turning out tooth brushes of a quality second to none. The members of your executive have had the privilege of meeting Mr. Stevens personally and I feel sure I voice the opinion of all when I say that he has inspired us all with the utmost respect and confidence. We feel that it is his ambition to turn out a strictly high grade brush which will satisfy us and be a credit to his firm. Under these conditions we hope soon to make up the present falling off in the royalties on brushes.

The sales of Hutax paste have been well maintained, though our revenue is somewhat lower owing to the necessity of reducing the royalties in order to avoid increasing the price to the druggist.

In view of the brighter outlook for general business in Canada and the improved arrangement for getting brushes and selling them I look forward to a more favorable financial statement at the close of this year.

Our Dental Executive will explain more in detail the changes being made in our agencies for the brushes.

Your executive committee has had several very puzzling problems to solve during the year, and I want to thank everyone for the loyal support given me at all times.

I again appeal to all members of the dental profession and more particularly to the nine hundred who are members of this Association to do all in their power to promote the sale of Hutax Products and thereby assist in the promotion of Oral Hygiene Work throughout the Dominion.

Report of the Dental Executive of the Canadian Oral Prophylactic Association, 1925

HARRY S. THOMSON, D.M.D.

Mr. President and Gentlemen:

I beg leave to present to you a report of the activities of the Canadian Oral Prophylactic Association.

In presenting a report of the year's work of the Canadian Oral Prophylactic Association one requires to be not only your Dental Executive, but an historian, and something of a prophet, for the activities of our Association cannot be fully recorded in the record of work done or things accomplished in any one year. Such a report should include a resumé of the work accomplished during the 22 years of its history; of the present work, finances and general activities; and outline its future work and opportunities.

Our History—This is the 22nd Annual Report of the Canadian Oral Prophylactic Association. Twenty-one years of sturdy, healthy growth, each individual year of which has seen an increased growth over the former—a growth towards one end only, the ideal which inspired the Canadian Oral Prophylactic Association:—That is, to restore to the Profession its own duties and responsibilities in recommending to patients what drugs and cleaning agents should be used; what means should be employed to take care of the mouth and thus providing for the public through the dentist a safer and saner prophylaxis.

The C. O. P. A. has grown from a small committee in 1905 to an organization of 900 members—the most outstanding dentists in Canada

Having an Ideal and Trying to Make it Practicable—Let us consider conditions as they existed twenty years ago. There were no dental clinics in public schools; there were no industrial or public dental clinics; there were only one or two Provincial hygiene committees. The words "Oral Sepsis" had never been used previously to the year 1900, when they were used for the first time by Dr. Hunter and it was not until eleven years later that the same Dr. Hunter put an entirely different aspect on our Oral Hygiene efforts, by telling us of systemic infections and lowered vitality caused by diseased teeth. Into such a world the Canadian Oral Prophylactic Association was formed by men of unusual vision.

These men—particularly during the first few years—gave very freely of their time and scientific knowledge to provide a means and financial

help whereby an organized plan of Oral Hygiene might be carried out. Night after night and meeting after meeting was necessary; time was given from their work and their play, with but one end in view—to carry the story of Oral Hygiene into every home in Canada, from coast to coast. There was no financial remuneration. The organization was so arranged that no member could receive one cent from it, but they have surely had and still are having a splendid recompense, for I think it can be safely said that Canada is ahead of all other countries in its organized work on Oral Hygiene lines. There is now an active Oral Hygiene Committee in every Province in the Dominion and also one connected with the Dental Society of every large city. There are dental clinics in the schools of all of our large cities. Many dentists are actively engaged in giving lectures on Oral Hygiene to schools, clubs and public meetings, and in the Province of Ontario we have a Director of Dental Services in the Provincial Department of Health, and other provinces are about ready to fall in line and make the same appointment.

In all the work that has brought about this great progress during the last twenty-two years the C. O. P. A. has had a large part. Many dentists have individually given unselfishly of their time to promote this great work and we, as an organization, can look back over these twenty-two years with considerable justifiable pride, knowing that the C. O. P. A. has materially helped many of these present day organizations and by its early entrance into this work and its extensive educational programme has been, perhaps, by far the greatest single factor in the growth that has taken place in this great health movement.

Our Present—Great as has been our success in the past, we know that our present could be very materially advanced through a deeper interest in our aims by a larger number of Canadian dentists. Our opportunities are unlimited, but our efforts are limited by the extent of our available funds, attained as royalties on Hutax products.

A study of these products and an increased knowledge of their merit would lead to a greater demand for them from our patients, which means not only more funds to carry on the work of the Association, but to the patient the products would provide a safe, scientific and satisfactory method of mouth cleansing.

The Future—The future with its many Oral Hygiene and Health organizations means perhaps a different programme of work for the Canadian Oral Prophylactic Association. The aim of the Association has always been to promote or assist in any movement until such time as that movement is capable of carrying on for itself. That time has arrived in many of the activities formerly carried on by the C.O.P.A., but new work is constantly opening up. Perhaps the most important aim of Canadian dentistry to-day is to promote and assist in securing the appointment of a Director of Dental Services in the Department of Health in every province. When that is done we can safely leave to these the responsibility of the work in each Province, but until that has been accomplished we try to assist these provinces with their various programmes.

Our Products—During the past year the formula of Hutax Tooth Paste has remained constant, but at the present time we are considering a slight change, due to newer knowledge in antiseptics. This change will likely necessitate a slight change in flavoring, and will not only improve the effectiveness of the paste, but will improve its palatability. Considerable time is spent in checking up all articles written and any scientific data

on the subject of dentifrices: the best of these are incorporated into our own Hutax, which necessitates frequent changes in the formula; but more than that, it assures the user and the dentist of the high standard of the product. The very fact that the sales of Hutax paste keep steadily increasing from year to year in the face of such keen competition surely indicates that we have succeeded in providing a dentifrice that is efficient, safe, pleasing and scientifically compounded. The sales of Hutax Paste for 1925 have kept pace with those of 1924, which as you remember was the biggest year in our history. An adjustment in the price of our royalties was necessary on account of the increased cost of some of the ingredients. This has reduced our cash receipts for this year, but we considered this action was more justified, rather than increasing the price to the druggist.

Hutax Tooth Brushes—To have Hutax Tooth Brushes manufactured in Canada has been the constant aim of your executive, and I am sure that you are very glad to know that this has at last been accomplished. Many attempts have been made during the last few years to bring this about, but up to now without success. Some few years ago we thought we had solved the problem and went so far as to then place an order for 50 gross of brushes with a Canadian brush manufacturer, but the result was unsatisfactory, both from a financial and quality-of-the-product standpoint. There are very few manufacturers of tooth brushes in Canada—perhaps not more than two up to 1924, so under these conditions we had to depend upon England and Japan for our supply. This has meant long delays due to the length of time required to carry mail and transportation. It also hindered a satisfactory check-up on quality, as we were so far away from the base of manufacture. We felt too that the Canadian public would much rather use brushes made by clean Canadian workmen, which also means that the money representing the cost of manufacture would be spent in Canada. During the early part of 1925 we entered into negotiations with the firm of Stevens-Hepner Co., brush manufacturers, Port Elgin, Ont., with the end in view of having them make for us Hutax brushes, and I am glad the President has been able to announce tonight that we have entered into an agreement with the firm to manufacture and sell them for us. This firm has been established for 34 years and to-day is one of the most outstanding manufacturing concerns in Canada. Their plant comprises large, modern, well-lighted and ventilated buildings and is equipped with the most modern brush making machinery available. Its employees comprise about 1/12 of the entire population of the town of Port Elgin, Ontario, and are of a superior type of Canadian men and women. The quality of the products manufactured by this concern is of the highest and, as was told me by a member of one of the largest retail concerns in Canada, "the brushes made by Stevens-Hepner Co. rank with those made by the best English makers, namely Kent & Sons." This statement is well proven by the interest manifested in this Canadian firm's display and the orders received for their goods at the Wembley Exhibition in England during 1924-25 by Mr. Stevens, the head of the firm.

It augurs well for the future success of Hutax tooth brushes that the C. O. P. A. has linked up with a man of Mr. Stevens' standing and the splendid manufacturing concern which he represents.

The design of the brush will remain exactly the same as it has during the last twenty years.

During the year 1925 the revenue received from Hutax brushes has fallen off. This was chiefly due to the difficulties through which our selling

agent, Mr. John Hargreaves, has been passing. Added to this the general business depression, and the keen competition in the tooth brush field, with enormous sums of money spent in spectacular advertising and free goods distribution of our competitors, forced Mr. Hargreaves, in October 1925, into liquidation. Although this means a big financial loss to the C. O. P. A., as well as to the other creditors, the Executive takes this opportunity of paying high tribute to Mr. Hargreaves, from both a business and a personal standpoint, to his honesty and the high ethical manner in which he has for so many years conducted his business and for us the Hutax Brush Agency.

School Brushes and Paste—During the year we have been able to supply many school children with our special-for-school-children's brush and special-for-school-children's Tooth Paste. These are sold in a special package to school boards or school nurses only, and afford a splendid, practical way of emphasizing the teaching of Oral Hygiene and provides the machinery to carry it on. The brush is provided for 15c and the paste \$1.20 a dozen plus transportation charges.

Educational Work—At the annual meeting, 1924, it was decided that our Association co-operate with the Canadian Dental Hygiene Council and that all educational work formerly carried on by the C. O. P. A. would in the future be carried on by the C. D. H. C., the Canadian Oral Prophylactic Association providing financial assistance for this purpose. This was done to bring about a more complete co-operation of dentists and laymen and make for better unity in dental educational work.

This has resulted only in partial success. Possibly a longer time is required for this combination to attain the success which we had expected.

Beginning early in January your Dental Executive, under the auspices of the C. D. H. C., undertook a trans-Canada trip to acquaint dentists with the aims and objects of the Council; to try to enlist the support of dentists and citizens in general for the Council and for its request from the Federal Government for a grant of \$10,000 a year for five years to assist in carrying on Dental Health work. At the same time general dental educational work was carried on in the cities visited, extending from two to five days, under the auspices of the Provincial and local societies. This trip from an educational point of view was a splendid success, but not politically for we did not succeed in getting our grant. In all, some 128 meetings were held. Addresses were given to Dental societies, clubs and schools in the following cities: Quebec, Montreal, Ottawa, Port Arthur, Fort William, Winnipeg, Regina, Moose Jaw, Brandon, Saskatoon, Edmonton, Calgary, Kamloops, Vancouver, Victoria, Nelson, Lethbridge, Medicine Hat, Swift Current. Addresses were given also to clubs and schools in various cities throughout Canada. Outline lectures and lantern slides have been sent out in answer to many requests and general information on many subjects of importance has been provided. Educational material is now being provided in Ontario by Dr. Conboy, Director of Dental Services of the Provincial Department of Health, and again we express the hope that it will not be long before it will be provided for in a similar manner in every province. Until such time, however, we will gladly furnish this same service on application.

Dental Research—The dental research work carried on during the last five years in the University of Toronto and financed by your Association was discontinued June 1st, 1925. This was chiefly due to the fact that

the Royal College of Dental Surgeons was becoming a faculty of Dentistry in the University of Toronto, and such work in the future would be carried on under that administration.

The financial report for the year 1925 has been presented to you, and though it presents a disappointing balance on the wrong side, I do not think we should be discouraged. We have passed through several years of unusual business depression—several years of very keen competition with manufacturers of tooth brushes and dentifrices, and also some years of unavoidable difficulties with manufacture and sales agencies. We are hopeful that many of these difficulties are definitely disappearing. Our Association is not in debt, the business depression appears to be lifting, and the correct design of our brush and the superiority of our products is gradually righting the difficulty of competition. Now, with the manufacturing problem solved and a Canadian made brush available, I believe we are in a better position to progress successfully and be of service than we have been in many years.

Greater prosperity will bring greater ability to raise funds in an ethical manner to carry on dental health educational work under our own auspices or through the auspices of the Canadian Dental Hygiene Council or some kindred organization. This is fulfilling the dreams that those few dentists had who twenty-two years ago organized the C. O. P. A. and through all these years, in spite of difficulties and some criticism did not become discouraged.

Twenty-two years of growth—twenty-two years of splendid service—twenty-two years of maintaining to a high standard an organization unequalled in any part of the world, an organization which men have carried on at personal sacrifice, an undertaking based upon an ideal, and have made it practicable, making money—not for themselves, but sharing it, using it to the best of their knowledge for the good of the entire profession, a concrete realization of their dreams.

OUR DREAMS

(From Harper's Magazine)

Do not deride them, or do not deny,
And tell me not the things you have done
But tell me your dreams; have you held thereby?
To the web that was with your destiny spun?
Lived with it ever, through shadow and sun.
Does the vision remain, no ill shall befall;
Lost, and there's nothing worth while to be won.
For we are our dreams and our dreams are all.

—Harry S. Thomson, D.M.D., *Dental Executive, C.O.P.A.*



Annual Report of Oral Hygiene Committee Academy of Dentistry, Toronto

ARTHUR DAY, D.D.S.

The Oral Hygiene Committee commenced its work about the middle of November and has held to date sixteen evening meetings. Much time has been put in by the individual members in approaching different organizations with a view of getting permission to give oral health talks to those under their supervision. We are pleased to report, however, that the public seem not only willing, but anxious to receive the education, and we can assure next year's committee that they will find the work anything but discouraging.

The following were the activities during the term:—

Dental Clinic in the Sick Children's Hospital. A project which was started by last year's committee and was completed this year with Dr. J. A. Bothwell as chief of staff.

That the subject material for lectures should be standard and correct we early in the year consulted with Dean Webster and Drs. Conboy and Harry Thomson, who prepared it for us.

Recognizing the scarcity of public speakers among the profession for oral hygiene addresses, we formed a class of fifteen to prepare themselves for the work, under the chairmanship of Dr. Harry Thomson. This class has held 14 evening meetings. After studying up the subject, Prof. Grieves, professor public speaking, Victoria College, was engaged to give a course of five evenings in teaching the class public speaking. The Oral Hygiene Committee is paying part of Prof. Grieves' fee, the balance being paid by members of the class.

Letters were sent to 665 manufacturing firms, asking permission to have our speakers give noon hour talks. So far we have had about 50 favorable replies, and they are still coming in. While a number of factories, on account of certain conditions, such as bakeries, cannot get their employees together, still we were able to report that we have had but one straight refusal. In many cases the firms have offered 15 minutes extension on the noon-hour, to give our speakers sufficient time. It is really surprising how anxious some of the large employers of labor are to have these addresses. The factory talks are being given now and will be completed by the end of next week.

Lectures were given to ten boarding schools as follows:

Moulton, Glen Maur, Branksom, St. Michael's, Bishop Strachan, Upper Canada, Loretto Abbey, Havergal, Guelph Women's College, St. Andrew's Central Technical, with the Women's City Club yet to be delivered on April 6th. Dr. Thomson kindly gave the addresses to the colleges, they were all lantern talks. Some schools had two,—one for juniors and one for seniors. We have since heard from the principals of these institutions saying how much they value this work and we have no doubt but that all of them will be only too anxious to have the lectures repeated next year.

Arrangements have been made with Dr. Barton who writes health articles for a syndicate of newspapers, to supply him with information on mouth conditions.

Dr. Grant spent one evening with us explaining the Oral Hygiene work in the city schools, the object being to see if there was any way in which we could be of help to him.

We also had an evening with Dr. Amy, and are glad to report that he has been giving lectures to all the Under-Graduate Nurses of the hospitals under the authority of the University. So far as we can ascertain this embraces all the under graduate nurses in the city. Dr. Amy deserves credit for having taken on this work himself, without the assistance of any committee.

The Victorian Order of Graduate Nurses are to have an address on April 12th. At our request the Academy had a paper on Oral Hygiene by Dean Webster at the January meeting.

The Federation for community services is arranging for one of our committee to appear before the boards of those organizations which have to do with the welfare of the poor, to explain to the officers and their field secretaries the necessity of dental work for those under their care. The cost for such work to be born by the federation. Already the Federation is giving \$2,500.00 per year for this purpose. The expense of our committee for the year will be about \$65.00.

The two following activities we are handing over to next year's committee:—

Boy Scouts: The Boy Scouts' Commissioner for Toronto has agreed to have talks given to the 114 scout troupés.

Second: With the spread of the Oral Hygiene movement among the public at large we perceive the necessity of getting all of the profession interested and also educated, otherwise the dentist is apt to be placed in an awkward position when asked questions about the work by his patient, and it will also tend to belittle the movement in the public mind. In the hope of getting to all the practitioners not only the members of the academy, we have had the city divided into some 15 to 20 districts, and we propose to take the Oral Hygiene message to every dentist in the city at local meetings to be held in each of these districts.

The members of our committee are: Drs. Grieve, Bean, Bothwell, McMulkin Thomson, Kerr, McDonald and myself. Dr. McDonald, acting as secretary and Dr. Bean as treasurer.

(Sgd.) ARTHUR DAY,
CHAIRMAN



Diet as a Factor in Dental Diseases

PERCY R. HOWE, D.D.S., BOSTON

Read before the Academy of Dentistry, Toronto, March, 1926.

Throughout all specialties in medicine to-day, there is a growing tendency to return to a closer study of the fundamental processes of the body. No specialty has been keener to recognize this need than dentistry. Certainly there is no more fundamental process than that of the conversion of the raw material of the diet into tissue. It is on this process that life itself depends, whether we consider that of the single cell or that of the aggregation of highly specialized cells which we term the body. Following the feeding of faulty diets to animals, we find tissue changes in various parts of the body, such as in the eyes, the digestive system, the nervous system, and in the bones and the teeth. Growth may be arrested and reproduction prevented. If the disturbance has not been too severe or of too long duration, these faults are corrected by improving the character of the diet. On the other hand, animals that are fed on a normal diet grow well, reproduce well, are extremely resistant to infections, and their organs are found to be in a state of health. The evidence that the diet is of fundamental importance in health is conclusive.

The movement in modern life towards living in smaller and more crowded quarters, elegant and sanitary as these may be, has the disadvantage of removing people from the source of supply of their food stuffs. The food, in consequence, must undergo treatment of some sort for its preservation over considerable periods of time. Methods of food preservation have reached a high state of perfection, yet in all preserved foods certain elements are lost or their potency greatly diminished. Also many important elements are either extracted or destroyed during the various cooking processes to which all of our food is subjected. Owing to the character of our food preparation, perverted appetites are created, and in consequence foods are usually selected for their taste or appearance, without regard to their nutritional value, so that the common phrase that we live to eat instead of eating to live, has some element of truth in it. Food we have in abundance. At our doors are food from the Arctic and from the Tropics. The Alaskan salmon and the tropical banana may be obtained at any time. There is no lack of food material, but a plethora, hence the need for a sufficient knowledge of the effects of various foods to enable us to intelligently select such as will give us health and sound teeth.

Degeneracy diseases, statistics show, are on the increase. Diseases of the kidney, of the heart, or of the gastro-intestinal tract—nervous disorders, cancer, defective eyes, defective teeth, are only a few of the diseases of modern life and are the replica of disturbances which have followed irregular diets fed to experimental animals.

Americans have been called a race of dyspeptics, and the term "American teeth" has characterized white beautiful teeth which are prone to decay. During the great war when the manhood of various countries was massed for physical examination, defects of the kind mentioned were

found to be astonishingly prevalent, and defective teeth were especially in evidence.

Sir Arthur Keith has said that the teeth are evidently the first part of the body to degenerate. This is apparently true in animal experimentation and suggests the correct sequence in the relationship of dental to degenerative diseases. I am not one of those who attribute degenerative diseases to dental conditions—I feel rather that dental conditions are significant indicators of bodily changes which will eventually lead to bodily disaster.

Diseases of the teeth and bones relate especially to the subject of mineral metabolism—yet while experimental study shows that specific food substances directly affect calcified structures, this represents but one phase of the subject. A more extended study indicates that there are many things which may influence mineral metabolism and hence calcification. The problem appears to be one of relationship, or equilibrium of balance, of adjustment.

The experiments of Peppenheimer and of McCollum on rickets show that a given ratio between calcium and phosphorus needs to be maintained to prevent this disease. Mrs. Mellenby finds sound teeth in young dogs when the amount of calcium in their diet is low, providing sufficient cod liver oil is given. The fluids of the body are so constituted that they maintain their stability under quite adverse circumstances. The buffer properties of the blood and of the saliva are well known examples of one sort of compensating adjustment—for within quite variable limits their hydrogen ion concentration remains the same. In such diseases as rickets or osteomalacia, or in carious teeth, as we have found from analysis, nature counterbalances the calcium loss by substituting magnesium.

One of the first general considerations in food selection, from a dental point of view, is perhaps to choose those which contain an abundance of mineral elements, since teeth are so largely made up of inorganic material, and further, since these may be withdrawn in case of general systemic needs. Modern diets do not always contain as much of the mineral elements as is necessary to most bodily requirements. Milk, vegetables and fruits are the best source of inorganic salts. Whole grains contain more than refined grain products. These foods are therefore advocated as being of especial value in bone and tooth construction.

The digestibility of foods is another consideration. For young infants or children, mothers' milk is preferable to any substitute, as being in every way adjusted to the requirements of the child. Human milk differs from cows' milk in many respects; for instance it is more finely divided during the digestive act. This leaves more surface area for the digestive enzymes to act on. Mothers' milk contains more lactose or sugar than is found in cows' milk. This tends to regulate the character of the intestinal flora and to keep it normal. The normal intestinal flora of infants is aciduric, which prevents an overgrowth of the proteolytic type which induces toxemias. Again, mothers' milk contains less protein than cows' milk, and in a different proportion—i.e., less casein and more lactalbumen—factors which also act to prevent auto-intoxication. Especially do I desire, at this point, to direct your attention to the amount of protein in this natural food which meets the bodily requirements during a very active growing and bone forming period. Cows' milk contains about four per cent. of protein; mothers' milk only about two per cent.—yet these low amounts of protein in perfectly proportioned foods meet the bodily requirements.

It is well understood that cows' milk needs to be modified for the use of the infant. The curd of cows' milk is dense and large clots are formed. These being only partially digested cause alimentary disturbances such as constipation. The calcium of the milk is often encased in the milk clot and excreted unutilized. Cows' milk, on account of its high buffer properties, lowers the natural acidity of the infant's stomach to a degree in which the pepsin cannot act to its fullest advantage. To overcome this difficulty N/10 HCl is given in order to raise the hydrogen ion concentration to a normal point. On account of the danger of infection, cows' milk needs to be sterilized. Here again complicating factors arise; no animal can live on pasteurized milk. The antiscorbutic vitamine is thus destroyed and orange juice or some other source of this food factor must be supplied.

While I might mention various other modifications of cows' milk intended to make it more suitable for the use of the infant, enough has been said to show that mothers' milk is infinitely better suited to the needs of the infant when it can be furnished.

There is considerable evidence which shows that the teeth and arches of children who have been nursed by the mother are better than those children who were artificially fed early in life.

After milk, the most available sources of lime and the other mineral elements are the fruits and vegetables. These have the additional advantage of providing roughage, and the fruits at least may be eaten raw. Raw foods, with few exceptions, are more easily digested than cooked foods. Cabbage, for instance, in a raw state is easily digested, while cooked it is extremely hard to digest. Lusk found that raw foods stayed in the stomach about an hour and a half, while cooked foods remained about two hours and a half.

Our experience in the laboratory leads us to believe that too concentrated foods are not desirable, i.e., foods from which practically all the indigestible material has been removed. A certain amount of bulk or roughage in the diet improves markedly the condition of the animal. The digestive tract of an animal which has received considerable cellulose or roughage is clean, the absorption walls normal, and the musculature well developed. The coating of the tract of an animal fed a pasty and concentrated diet is thick, congested, atonic and often covered with mucus and slime. Absorption must take place through the intestinal mucosa, and here as well, certain acts of digestion take place. By lightening the food mass—by regulating the passage of the food from one digestive compartment to another, and by its physical effect on the gut wall, roughage, apparently, is an important factor in the diet. Animals with a clean intestinal tract have a clean normal mouth, and vice versa.

Vegetables, fruits, and whole grains are foods which contain considerable roughage. Perhaps there is no substance in foods which has been so much discussed as protein. There have been the advocates of high protein in the diet, and those who are equally certain that low protein is best for health and longevity. The relation of protein to mineral metabolism has received but passing attention. In regard to this subject I shall base what I have to say on the effects we have observed, principally in monkeys.

I have already especially directed your attention to the amount of protein contained in milk. Sherman has stated that modern diets are not apt to be deficient in protein. Our experiments agree with this idea, and

they further suggest that modern diets may be too high in protein. As our experience has been extended, we have found that animals do better on low protein.

The most rapid caries which we have produced in monkeys occurred on high protein diets. I have several specimens of the teeth and jaws of guinea pigs fed on high protein diets which show extensive decalcification. In control animals in whose diet starch was substituted for protein, no dental or bone changes have been detected. I am unable to offer an explanation—I merely state a fact. I was interested to note that in a review of studies on nutrition which appeared in the London "Spectator" it was stated that low protein was winning out all along the line. Our own work confirmed this and indicates that protein excess is capable of doing considerable harm.

The amount of fat in the diet is another subject about which there has been considerable difference of opinion. Some believe that too much fat in the diet leads to a soap formation with calcium, and that the lime is then excreted unutilized. Others have concluded that the best calcium retention occurs when there is considerable fat in the diet. Especial attention has of late been given to the character of the fat, and its value has been rated according to its vitamine content. Mellanby Korenchevsky and others have held that the fat soluble directly controls calcium metabolism, and hence calcification. More recently, however, a distinction is made between the fat soluble vitamine and the anti-rachitic, or that occurring in cod liver oil.

It has been our experience that in feeding monkeys the amount of fat in the diet must be kept below the point where it might cause too active movement of the bowels, or too soft and bulky stools.

Professor Wolbach and I have studied the effect of a deficiency of the fat soluble A on rats. On autopsying the animals we have not found any bone changes. The teeth have shown minor changes. The specific effect of this deficiency appears to be on epithelial tissues where the normal epithelium is replaced by a keratinized squamous epithelium. From the dental aspect the effect on the salivary glands is of especial interest since they become in part filled with this abnormal tissue and lose their ability to perform their specific chemical functions. The amount of saliva is also diminished.

The effect of cod liver oil on rachitic bone is probably not due to fat soluble A content but a new term, anti-rachitic vitamine is already being employed by some investigators.

Of the three groups of vitamins which have been most thoroughly studied by numerous investigators, the anti-scorbutic is the only one which directly affects calcified tissues. The teeth are among the first structures to show changes in a deficiency of the anti-scorbutic substance. The pulps show the effect of this deficiency in from five to seven days. In our opinion the scorbutic state may be characterized as one affecting supporting tissues in which the cells are unable to produce and maintain the intercellular substance. This condition affects various supporting structures to a different degree and is most marked in those in which the intercellular substance is calcified—that is to say on the bones and teeth.

Another aspect of mineral metabolism which seems to me of fundamental importance is the acid-base equilibrium in the body. It controls largely the H ion concentration of the body fluids, cell permeability, nervous irritability, muscular contraction and bacterial infection. Shohl in

his illuminating monograph on this subject has selected analysis from accurate sources which indicate the requirement of infants and young children for a considerable excess of basic elements, over acid radicals. Bibby has made the interesting suggestion that the lack of a supply of the basic elements in foods, among which is calcium, might be a factor in caries. The fetus during the last one hundred days of life requires a very considerable amount of basic elements over acid, and this affords an explanation for the caries of pregnant mothers.

A large proportion of the basic radicals are used for bone and tooth formation, but calcium may be withdrawn from calcified tissues to maintain the alkalinity or neutrality of the body fluids if an excess of acidic radicals is furnished in the food.

The ash of protein and of cereals is acidic, while that of fruits and vegetables is basic, and milk is slightly basic; apparently the latter foods are best for building and maintaining sound teeth.

Throughout this paper I have assumed that dental defects have resulted from metabolic derangement. This has been the only way in which dental pathology has been experimentally produced.

I have shown in other papers that caries, pyorrhea and irregularity of the teeth have followed metabolic derangement. This may be readily understood in the case of pyorrhea and irregularity of the teeth, or in teeth in the process of formation, but it is not so readily understood how caries may result. For this reason I have recommended withholding an opinion as to the exact explanation of caries. Since we have not succeeded in producing caries according to our previous theories, but since it has followed metabolic disorders, I should like to mention one or two matters which indicate that the teeth are much more liable than has been previously thought.

We have been taught that the teeth are all alike chemically and physically, and that formed teeth cannot change in their composition. We have found by analysis that not only do different teeth show chemical differences, but that the calcium content of the same tooth differs. The crown of the tooth contains the most calcium—the root end the least. The calcium content diminishes from crown to root tip. Elsewhere I have shown that carious teeth contain more magnesium than do sound teeth. Mr. Logan has since verified this in our laboratories. The tests just mentioned were also carried out by him. Toverud's work in our laboratories I have previously described. After leaving my laboratory he did work of his own on rats which showed that formed teeth had changed in their chemical composition. We have observed in some of our monkeys that formed teeth have become almost wholly decalcified.

The fact that a suitable dye stain is carried from the peritoneal cavity through the dentine to the enamel, shows that products from the abdominal cavity may penetrate the dentine. Levy, and more recently Aub, working on lead poisoning have found the lead deposited in the dentine of the teeth of their animals, and that rapid and marked caries occurred in cats which, normally, are free from caries.

These few facts are mentioned with a view to indicating that metabolic processes do produce dental effects heretofore unsuspected, and afford grounds for suggesting that we observe dental conditions from the metabolic aspect. At a later time I shall have more to say regarding this

matter, but must leave it for the moment and pass on to look, with you, at the diets of primitive people who are generally free from dental disorders.

Most of the investigation regarding the diet of primitive people in its relation to caries, has been conducted on the principle that the cause of caries has been solved by Dr. Miller. Hence the amount of carbohydrate in the diet has been especially considered, or the fineness of the food with a view to stagnation. Dr. Pickerill has emphasized its property of stimulating or depressing salivary flow. An abundant flow, according to him, causes a greater amount of total alkalinity or acid neutralizing property of the oral fluids.

From what has been learned through recent research it would appear to be worth while to examine primitive diets from a different aspect.

There does not seem to be much question but that diets of game, fish, milk, fruit and vegetables, roots, nuts, etc., contain large quantities of the mineral elements, and as these foods have received but little treatment, these inorganic constituents are left in the proper proportion for bone building.

Such diets are much coarser, as a rule, than modern diets, hence they contain a large proportion of roughage, the effects of which we have already discussed.

The foods are often taken raw, or they are but little cooked. Such processes of cooking as are used conserve many elements which in modern processes are lost.

These diets contain more basic radicals than acidic. I doubt if on the whole they could be considered to be high in protein. Even the diet of the Eskimo, who is really considered a large flesh eater, will bear investigation from this point of view. Fat is taken in large quantities. The deer are sought in the season when they have much fat. The fat of fish and seals is also used largely. In addition, the Eskimos use for food some twenty kinds of herbs, berries, and edible mosses. It is doubtful if their diet averages much over twelve per cent. of protein.

On account of the zone in which they live, and on account of the small amount of carbohydrate in their diet, they probably utilize fats in a different manner from those who live on better balanced diets—and again the fish oil probably contains properties similar to that of cod liver oil.

Taking so much of their food raw furnishes them with an abundant supply of the anti-scorbutic vitamine.

The diet of such races as the Maori or South African tribes is made up largely of fruits, vegetables, nuts, roots, etc. These diets appear to be excellent from a dental point of view, as do those of races who live to a considerable extent on milk.

Not long ago I had the pleasure of listening to a Professor of Anthropology describe a trip which he took into the Northern Himalaya Mountains. He spoke of two races who for many years had lived in two distinct valleys walled off from each other and from civilization. He remarked on the distinct physical superiority of one race whose diet consisted of fruit and vegetables, over the other race who lived on cereals. The climatic zone was similar to that of New England.

From the nature of our laboratory work we have had many interesting conferences with medical travellers who have been in regions but little visited. I shall merely refer to one incident in which an account was

given of the life of some Monks who lived almost wholly on fruits and vegetables, a little meat being taken only on feast days. This traveller spoke of the fine stature and physical condition of the men of this religious order.

We might consider innumerable cases which demonstrate the same thing. However, on the whole it seems that in the zone in which we live and from the life which we lead in our diets we should use more milk, vegetables and fruit, and less meat and cereals. I am well aware that many will not agree with such a conclusion, and I can only say that I have arrived at this opinion from a study of a number of animals which has extended over a considerable period of time. A review of similar work done by others substantiates the same idea.

In these studies it has been quite evident that the best general health and the best teeth have resulted from the diets here advocated, while disaster has followed a departure from them.

It is those foods which contain the mineral elements and with a preponderance of basic constituents, the low protein, the roughage and the vitamins, from a dental point of view herein is prevention, rather than in so artificial a process as the cosmetic use of tooth lotions, pastes and powders.

Accidents to Teeth

From the causes indicated above children sustain fractures of the teeth involving the enamel, both enamel and dentine, and often the pulp as well, or perhaps the whole tooth is dislodged, as well as part of the bone and some of the soft tissues. In accidents of this kind it is often very difficult to determine what is the wisest procedure to follow. Generally speaking when only the enamel is involved polishing of the rough edges is all that is necessary, and if the dentin is included only a cement protection is needed until it is known if the pulp will die. If the pulp is but slightly exposed it may be protected or capped, especially in the young. Many cases are on record when teeth have been dislodged and remained from their sockets for hours or days and after proper treatment been replaced and gave years of excellent service. If the teeth and the supporting bone and the overlying soft tissues have been driven into wrong positions by the force of impact they can often be at once molded back to their normal places and there supported by a splint and later become re-attached.

The more violent accidents to the jaws and teeth in civil life which cause fractures of the bones of the face can be successfully put to place and held there by internal and external supports or splints. The accidents or wounds of military life are mostly different from civil life inasmuch as the projectile carries away a part of the bones or supporting structures. By the ingenuity of dental and plastic surgery combined, the bony or supporting structures of the jaws are replaced sometimes with new bone and sometimes with artificial supports, and over these is grafted or replaced new skin, thus restoring most horrible disfigurements to normal or more pleasing appearances.

As the result of research, in science, dentistry, surgery and medicine, it is possible to assure parents and guardians that children need not suffer as a consequence of minor deformities or from the consequences of decay

of the teeth and that adults' teeth can be retained the normal span of life with vigilant personal and professional care. And if by reason of deformity, neglect, disease or accident one or more teeth are lost dentistry can restore to beauty and function with a likeness so true that neither patient nor friends know the difference.

Degenerations of Middle Life

Yes, for instance, the diet. The diet in middle life, or in advancing years, should be regulated in proportion to the actual demands of the body. We know that in early life a good deal of nitrogenous foods, that is, foods such as meat, milk, eggs, etc., and the various legumes, such as peas, beans, etc., are very necessary for building material, but are much less necessary later on in life when the construction of the body is completed. What is then required particularly is energy, which we can get for the most part from what we call carbo-hydrates and fats, such as the various cereals, bread and vegetables. A little meat may be added in order to give a spice to what we are eating, and an occasional dish of peas or beans, or even cheese occasionally. Milk can be taken at all times and while a quart a day is absolutely essential in early life, it is more or less essential in later years to provide for the wastage of lime salts. In the developmental period no less than a quart of milk a day should be consumed by every child.

Then of course there is the important role played by vitamins. There have been rather absurd and misleading statements made in regard to vitamins, for they simply are those ingredients in our food that constitute a balanced diet. They do not only supply specific needs of the body, but also materially aid in metabolism, or the process by which our food is digested and assimilated. These vitamins exist to a certain extent in all our mixed diets—meat, vegetables and so forth—but in order that we may have an ample supply of them, it is advisable to take green vegetables or green leaves in some form, such as lettuce, spinach and, for the children, milk. Milk contains all three of the vitamins, but the one vitamin in milk, and in other foods, that is responsible for the prevention of scurvy, is not always constant, and often is not present in the proportion necessary. Therefore we would recommend strongly that all children be given fruit or fruit juice, say half an orange to a small child. This will give the child all of the vitamins essential for the control and prevention of scurvy.

By being careful to eat intelligently, that is, according to the requirements and the demands of our body, we will avoid the extra strain that is likely to be placed on the kidneys and to a greater or lesser degree on all the other organs of the body.

In connection with the question of food, we should emphasize the great importance of seeing that a portion of the food which is not being assimilated is got rid of regularly, at least once, and better, twice every day. If it is not passed on after the nutritive part has been absorbed, fermentation sets in, and toxins are developed and may be absorbed. These toxins have a more or less disastrous effect on the various vital organs of the body.

What About Worry. Does It Play Any Part?

Yes, a very important part. Every intelligent person, through his own observation, has no doubt familiarized himself with the influence of the mind over the body. One of the most prolific sources of physical suffering is worry. It influences to a greater or lesser degree every function of the body. The most valuable single factor in the maintenance of health is cheerfulness. Always endeavor to let the other chap do the worrying, but at the same time see to it that you are not responsible for that worry. Cheerfulness, optimism and the absence of worry are amongst the most important therapeutic agents that we have, both in restoring health and maintaining health.

"Excessive emotions, misdirected energy, longing for the unattainable, regrets for the unalterable, anticipation of future happenings, lack of all sense of perspective, brooding over non-essentials, indecisions, reopening of old troubles, questions already settled, avarice, selfishness, excessive emotions, uncontrolled passions and the actual cultivation of a melancholy state, are," as Pyle has fittingly expressed it, "some of the causes of mental anguish and subsequent physical suffering that are not commonly associated with the painful breach of hygienic laws to be demonstrated by teachers of practical physiology."

It must be perfectly obvious to all of us that worry materially interferes with every function of the body, and in a most marked degree with the digestive functions, even at times almost depriving us of all desire for food. How frequently, when just about to sit down to the table with appetites in excellent condition, we have heard some sad, depressing news, or some thought of an unpleasant character has rushed into our minds, and our appetite is gone! The digestive process after food has been taken is only retarded by worry or depression. Be cheerful, and remember that when you laugh, the world laughs with you.

Herbert Spencer fittingly said that "Physical sins, partly our own and partly those which we have inherited, which produce ill-health, deduct more from the complete living than anything else, and to a great extent make life a failure and a burden instead of a benefaction and a pleasure."

A knowledge of the normal functions of the body, and the simple methods of keeping them in healthy action, is the one thing that no educated person should be excused from possessing and turning to practical account.

What About Physical Exercise?

Well, we have already referred to this in connection with food. With food, it should be taken according to the requirements of the body, but we can always eat more heartily if we take proper physical exercise.

Probably one of the most valuable lessons we have learned from the war that we have passed through is the advantages of physical training. There is little doubt that those that enlisted and received a full course of training fitting him for service, if they have escaped the disastrous results of war, have by that very training added years to their lives.



Sterilizing Decay in Cavities

Cavities are divided into three classes: Simple, deep cavities with pulp involvement, and exposures.

Simple Cavities—Bacterial penetration may be deeper than a condition would indicate. The Booth method of staining with Ammoniacal Silver Nitrate and Formalin in both anterior and posterior cavities insures removal of all infected material without permanently staining the tooth. After this method is used, an operator is always certain that the tooth is clean. Bacteria do thrive and proliferate beneath fillings and therefore should be eliminated.

Deep Cavities With Pulp Involvement—This question is frequently asked: "Would it be better in very deep cavities where the pulp is almost exposed to extirpate the pulp and apply the solutions to the canals?" No. A pulp should never be destroyed, without an effort being made to maintain vitality.

First and second molar teeth not fully developed and broken down to the extent that fillings cannot be inserted, are treated without the use of cutting instruments or burs, and may be retained.

Less cavity preparation is used by this method, and if bacteria have not extended too deeply, the pulp will recuperate and recover by its own vital power, providing bacteria, the cause, are removed.

In deep cavities, or exposures of the pulp, the solutions are not applied directly to the decalcified dentine. The technique eliminates possibilities of irritation to the pulp.

It is only necessary to wash out or remove the loose debris. There is no cutting or cavity preparation made until the pulp recovers, or, in event of a natural death of the pulp, it is extirpated.

This method at once suggests that painful operations may be eliminated, and in many cases of pulp involvement and exposures, how the pulp may be conserved.



Deficiency Diseases, Goitre and Rheumatism in Domestic Animals

GEO. B. ROTHWELL, DEPT. ANIMAL HUSBANDRY, OTTAWA

Replying to your letter of September 8th would say that I do not know of any specific literature issued by the Department of Agriculture dealing with the questions which you bring up. I am enclosing herewith circular "The Feeding of Swine," on page 4 of which you will find reference to crippling and rheumatism in swine. The abnormal condition known as hairless pigs may undoubtedly be classed with those diseases due to deficient ration. While this condition is more prevalent in the West, it is also found in Eastern Canada, under which conditions we have noted that it usually occurs where sows are fed too little roughage or vegetable matter in some form, and where they are not supplied with a mineral adjunct to the feed. These conditions, coupled with lack of exercise, will very often result in weak, flabby litters that are frequently hairless. The true hairless litter, usually found in the West, where in certain seasons it becomes almost what might be termed epidemic, is undoubtedly caused by a lack of iodine as evidenced by the secretion in the thyroid gland, and this in turn may be traced to a lack of iodine in the ration. At least we know that the administration of iodine in small quantities in the sows' ration will correct the trouble. Unfortunately it is difficult to get authentic information in this regard in that a herd of sows may farrow hairless litters one year, while the next year under apparently identical conditions the litters are normal in every way. If in the interval the breeder has decided to supply potassium iodide he is apt to credit to this influence the correction of the trouble. Nevertheless, we have proven to our own satisfaction that we can control this condition by the use of iodine in some form. You will find herewith a circular issued by the Health of Animals Branch in this connection. Possibly with sheep we have had most pronounced results by the use of potassium iodide or iodine in some form in the control of goitre in lambs. On our Experimental Farms where we have carried on experiments in this connection we have proven to our own satisfaction that this condition may be controlled, where in check lots where iodine was not administered the goitred lambs ran into a high percentage. The use of iodine or iodized salt, which can be purchased now, is becoming efficient with sheep, particularly in the West, where this peculiar condition seems more pronounced as affecting sheep and swine.

Within the last few years we have been working with potassium iodide with mares, with the idea of controlling joint ills in foals. While we are not yet prepared to make any definite statements, during the past three years we have eliminated this trouble in our foals at Ottawa by the use of $\frac{1}{8}$ to $\frac{1}{16}$ of an ounce of potassium iodide administered in the drinking water on the first and fifteenth of each month during the latter 6 or 7 months of pregnancy. We had formerly experienced a great deal of trouble with this disease in our foals at this Farm, which we had partly under control by the use of vaccines. By discarding vaccines and using potassium iodide we have apparently gotten away from the trouble completely.

SOCIETIES

A Correspondent's View of the Buckley-Price Debate

The two most commonly efficient drugs which are used to sterilize dentine are formaldehyde and nitrate of silver. Formaldehyde is a violent irritant and nitrate of silver discolors teeth. An advocate of the use of nitrate of silver makes this comment on the Price-Buckley debate:

Buckley threw no light upon the subject. His attitude seemed to be that of personal antagonism toward Dr. Price, and as he made the statement that Price was a dangerous man to follow, it seems only right as long as one had been analyzed, to analyze the other. Dr. Price did not see fit to review the work of Buckley.

The records of the American Dental Association show that practically 75 per cent. of the teeth treated by dentists give trouble later on. There are some who place the amount even higher, but if the amount were reduced to 50 per cent. failures, it is admission of the inability of the dentist to take care of the conditions.

The point I want to bring out is that Formo-Cresol has been the most widely used preparation, and the majority of the teeth treated have become infected. If these peri-apical areas have a bearing upon the health of patients, from my point of view Buckley has been by far a more dangerous man than Price will ever be.

I therefore feel that the meeting in Chicago is going to result in a great deal of good. I believe that dentists will eventually have a better understanding of the subject of infection. When this comes about they will only consider methods that will sterilize dentine. Treatments will be eliminated.

MONTREAL, JANUARY 28, 1926—Essayist, Dr. B. L. Hyams

A very interesting paper on the Development of the Modern Face was read. It dealt with the evolution of the parts that form the face. The factors that affect the proper and improper development of the face and dental arches. After the lecture many slides dealing with the subject were shown.

FEBRUARY 11, 1926—Essayist, Dr. F. W. Saunders

The speaker read two short and very interesting papers. The first dealt with Dr. G. B. Winter's Technique for Removal of Lower Third Molars. The second was on Dr. T. Blum's Technique for Alveolectomy. The lecturer illustrated with drawings on a blackboard.

Essayist—Dr. S. J. Schachter

The subject dealt with was Radiography. The paper was interesting and instructive. The important part X-Rays took in diagnosis and treatment. After the lecture X-Ray films were shown and discussed.

Hearty votes of thanks for the excellence of the above three lectures were passed at the end of each lecture.

I. N. PESNER, D.D.S., Secretary.

Ontario Dental Association Annual Convention, May 17, 18, 19, 20, 1926

The list of essayists for the Annual Convention of the Ontario Dental Association contains the names of such outstanding dentists as Dr. W. N. G. Logan, President of the International Dental Congress and Dean of the Chicago College of Dental Surgery. Dr. Thos. B. McCrum of the Deaner Institute, Dr. Abram Hoffman, the well known Buffalo orthodontist, and E. L. Hatten, M.D., of Chicago, who for many years has been associated with dental research activities.

Among the clinicians, the Association, with pardonable pride, presents the names of Dr. Francis Scott Weir of New York City, Dr. Howard H. Jackson of Detroit, Dr. Thos. B. McCrum of Kansas City, Dr. Fred F. Molt of Chicago, and Drs. Spence Clappison, A. E. Webster, Irvin H. Ante and Ernie Cummer, of the Faculty of Dentistry, University of Toronto.

The Department of Periodontology, headed by Dr. Harold Box, will give a practical clinic upon Prevention, Correcting Occlusion, Instrumentation and Self Treatment in Periodontitis, while the subject of "Amalgam" will be presented by the London Dental Society. A clinic on "Prevention and simple appliances in Orthodontia" will be given by the Toronto Academy of Dentistry.

The Convention will be officially opened by the Hon. Dr. Forbes Godfrey, Minister of Health for Ontario. Prominent speakers have been secured for the noon-day luncheons and entertainment of a very pleasing nature has been arranged.

Present reports indicate that the attendance will be the largest in the history of the Association and dentists from points outside Ontario will be cordially welcomed.

Regina Dental Society

Last night we met in annual meeting. We elected officers for the coming year as follows: President, Dr. F. K. Switzer; Vice-President, Dr. C. C. Craigie; Secretary, Dr. Wm. Smith.

An arrangement of mutual benefit has been come to with the Moose Jaw Dental Society, whereby on stated occasions we jointly meet. Last evening a number of them came to Regina and took charge of the evening's programme. A good dinner over, we started in to discuss Dental Prosthetics with particular reference to articulation. Dr. Plunkett, of Moose Jaw, held the floor on this subject for fully an hour, the Wadsworth articulator being the basis of his subject. He gave a very enlightening talk and demonstration. He was followed by a bombardment of questions at both short and long range, but seemed fully equal to the task of satisfying all present. Every participant in the discussion agreed that articulation was of prime importance and that many failures are due to faulty articulation.



J. C. DEVITT, D.D.S., L.D.S.,
Bowmanville, Ontario. President of the Ontario Dental Association. 1926.

Next month when we go to Moose Jaw, the Regina Dental will take charge of the programme.

The Regina Dental decided to become members of the Western Canada Dental as a Society so that all of our members will become active members of the Western.

Yours sincerely, W. D. COWAN.

Canadian Dental Convention, Halifax, Aug. 16-19

Programme—Steady progress is being made in the programme arrangements, and those who have definitely promised to come include: Operative Section—Dr. H. J. Baker, Boston; Dr. A. E. Webster, Toronto; Dr. T. P. Hinman, Atlanta, Ga.; Dr. T. P. Hyatt, Dr. E. A. Lieban and Dr. W. S. Tracy, New York.

Prosthetic Section—Dr. W. E. Cummer, Toronto; Dr. W. H. Hoyt, Boston; Dr. Biley Smith, Philadelphia, Pa.

Crown and Bridge and Ceramics—Dr. I. H. Ante, Toronto; Dr. W. G. Bridge, Boston.

Local Anaesthetics, Exodontia and Radiography Section—Dr. W. B. Amy.

Orthodontia—Paper prepared by Dr. J. Lowe Young.

Education, Public Health and National Canadian Dentistry—Dr. W. Seccombe, Dr. F. J. Conboy and Dr. H. S. Thomson of Toronto and Dr. A. W. Thornton of Montreal.

Besides the above a number of other papers and clinics are being arranged and the Programme committee feel they can promise one of the best programmes ever given in Canada.

Philadelphia Trip—Those who plan to attend the International meeting in Philadelphia can easily make connections after the Halifax meeting.

1. By train—leave Halifax about 9 a.m. (Daylight saving time) on Friday and arrive in Philadelphia about 6 p.m. on Saturday. Two routes are available, either all rail via St. John, fare \$36.81, or by rail to Yarmouth on the "Bluenose" through the Annapolis Valley to Yarmouth then by boat to Boston Friday night, fare Halifax to Philadelphia, \$28.50.

2. By auto—leave Halifax Thursday afternoon after the meeting, travelling as far as Kentville (70 miles). Friday, Kentville to Yarmouth, 145 miles by good roads. Yarmouth to Boston by boat Friday night (fare for car \$1.00 per hundred with a minimum of \$15.00, passengers \$9.00). Saturday and Sunday, Boston to Philadelphia via New York, 334 miles.

Bulletin—A short bulletin is being prepared giving information about the meeting. Drop us a card for a copy. Dr. A. C. Kennedy will also have a supply.

Vacation Trips—Don't forget when you are planning your vacation trip this summer that you can combine a delightful seaside trip to the Atlantic and the convention meetings. We will be very glad to send you booklets and help you plan the trip.

34 Larch St., Halifax.

J. STANLEY BAGNALL,
Secretary, Canadian Dental Assn

Seventh International Dental Congress

The Local Committee on Hotels urges all who wish to attend the Congress to make hotel reservations at once. There will be several other large conventions in Philadelphia at that time, and immediate action is necessary in order to secure accommodations. Make application direct to hotel.

There will be available for advanced registration of the delegates to the International Dental Congress in Philadelphia during the week of August 23 to 28, 1926, hotel accommodations as follows:

Hotel	Capacity, persons	Rate per room per day
BELLEVUE-STRATFORD, S. E. Cor. Broad and Walnut Sts.	800 to 1000	\$4.00 to \$8.00
RITZ-CARLTON, S. E. Cor. Broad and Walnut Sts.....	150	7.50
WALTON, Broad and Locust Sts.	400	4.00 to 6.00
STENTON, Broad and Spruce Sts.	50	5.00
THE SPRUCE, 13th and Spruce Sts.	200	4.00 to 6.00
SYLVANIA, Locust and Juniper Sts.....	400 to 500	5.00 to 6.00
VENDIG, 13th and Filbert Sts.	300	3.50 to 4.00
WINDSOR, 1219-29 Filbert St.	200 to 300	4.00 to 5.00
HANOVER, N. W. Cor. 12th and Arch Sts.	200 to 300	4.00 to 5.00
ADELPHIA, 13th and Chestnut Sts. (<i>all rooms with bath</i>)	600	4.00 to 5.00
ST. JAMES, 13th and Walnut Sts.	300 to 400	4.00
ALDINE, 19th and Chestnut Sts.	100	4.00 to 5.00
ELK CLUB, Broad and Wood Sts. (<i>Men only</i>)	100	4.00
LORRAINE, Broad St. and Fairmount Ave.	250	3.00 to 6.00
MAJESTIC, Broad St. and Girard Ave.	200	3.00 to 6.00
PENNSYLVANIA, 39th and Chestnut Sts.	400	2.50 to 3.00
GREEN HILL FARMS, City Line and Lancaster Pike....	40 to 50	5.00 to 6.00
BARTRAM, 33d and Chestnut Sts.	250	3.00
ROBERT MORRIS, 17th and Arch Sts.	250	3.50 to 4.00
BELGRAVIA, 1801 Chestnut St.	70	3.50 to 9.00
CLINTON APTS., 10th St., below Spruce St.	100	4.00 to 5.00
STRATHMORE, 12th and Walnut Sts.	90	2.50 to 3.00
MARLYN APTS., 40th and Walnut Sts.	20	4.00 to 5.00
WASHINGTON, 7th and Dauphin Sts.	300	3.50
PENN ATHLETIC CLUB, 18th St. and Rittenhouse Square (<i>Men only</i>)	150	3.50 to 4.50
GIRARD CRAFTSMEN CLUB, 2027 Chestnut St. (<i>Men only</i>)	25	5.00 to 9.00
Y. M. C. A., 1425 Arch St. (<i>Men only</i>)	50 to 100	1.50 to 2.50
Y. W. C. A., 18th and Arch Sts. (<i>Women only</i>)	25	1.00 to 1.50
WALT WHITMAN, Broadway and Cooper St, Camden, N. J.	100	3.50 to 4.00
PHILADELPHIA YOUNG FRIENDS' ASSOCIATION, INC. Fifteenth and Cherry Sts.	20	4.00 to 4.50

The Seventh International Dental Congress will be held in Philadelphia, United States of America, from August 23rd to 27th, inclusive.

Members of the Dental profession from all over the world will assemble at the Congress.

Reduced rates of fare to Philadelphia from all parts of the world are being offered by the steamship companies, railways, tourist agencies, etc., during the summer of 1926.

There will be present at the Congress from fifteen to twenty thousand dentists, including the most eminent men and women in the science and practice of dentistry. Arrangements are being made to comfortably house everyone. Dental associations, clubs, federations, etc., in various cities are arranging hospitality to foreign delegates who visit their cities before or after the Congress.

In Philadelphia, during the week preceding the convening of the Dental Congress, the Philadelphia Clinic Club is arranging a programme of clinics for the foreign delegates. These clinics will include operative dentistry, orthodontia, exodontia, root canal therapy, porcelain technique, crown and bridge work. In addition, there will be continuous demonstra-

tive clinics on full and partial denture construction every evening during the week preceding the Congress.

The Dental Congress will be held at the same time as an International Exposition of the arts, sciences, education, social and commercial progress is being held in Philadelphia. The city of Philadelphia, which is the metropolis of the State of Pennsylvania, is the birthplace of the American republic. The city, with the co-operation of the national government of the United States and the governments of the separate states, is holding the Sesqui-Centennial Celebration and International Exposition. It is in commemoration of the 150th anniversary of the signing of the Declaration of Independence, by which the American colonies declared their freedom and the nation was born.

Philadelphia is a centre of dental education, and the location of the largest dental material manufactories and supply houses in the world. The modern practice of dentistry really began in that city.

The summer of 1926 will be filled with historic pageantry, large public gatherings and other assemblages in Philadelphia.

His Excellency, the President of the United States, Mr. Calvin Coolidge, will attend a number of these ceremonies, and it is probable that he will officially open the International Dental Congress.

The dentists attending the Congress, who will, of themselves be a cosmopolitan gathering, will be among a multitude assembled from all parts of the globe to attend the Sesqui-Centennial Exposition.

This exposition will be housed in many buildings, of vast acreage, in a location within the city and ten minutes ride from the city's centre.

The Dental Congress will have its own exposition features. There will be shown, in immediate conjunction with the sessions of the Congress, a dental scientific exhibition. There will be a dental public education and health exhibit, and also a dental historical exhibition. A commercial exhibition will show the largest developments in the mechanical side of the profession. 16,000 square feet of space in the Commercial Museum, in which the Congress will assemble, will be devoted to these exhibitions.

The marvellous advance in oral hygiene and oral surgery in which the dental profession has participated, and has, in fact, led, will be an important theme in the deliberations of the Congress.

Arrangements have been made by the International Congress management that delegates will make inquiries regarding hotel and other accommodations direct to the hotels in Philadelphia. Lists of these hotels are being published in all the dental journals throughout the world.

International Association of Dental Research

The officers were then elected for the following year:

President—L. M. Waugh, New York;

Vice-President—W. R. Bunting, Ann Arbor;

Secretary—N. G. Thomas, University of Illinois, Chicago;

Treasurer—Dean Rice, Tufts College, Boston.

The next meeting will be held at the same time and location of the next meeting of the American Association of Dental Teachers.

Editorial

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ONTARIO—S. Stewart Crouch, D.D.S.

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No. 4

The Dead Tooth Again

The March issue of the Journal of the American Dental Association contains a very interesting editorial on the "dead tooth." With all its conclusions we cannot agree. The editor would expunge the term "dead tooth" from dental literature. If he did how would he describe the condition of many roots of teeth which have died from frequent acute inflammatory processes and nature is absorbing the dead tissues as a means of getting rid of it? Or how would he describe the condition of the implanted or replanted tooth. It is truly a dead tooth. And the expression "dead tooth" is well applied to it.

By common usage that which is dead retains its original name until its form has been lost, e.g., a tree is still called a tree until it is cut into lumber or has rotted into earth. An arm or a leg is still called an arm or a leg though severed from the body. The qualifying word may be used "*dead tree*" but rarely *dead leg*. Though a man may have a dead leg he is not legless until his legs are removed. Because a tooth has a dead pulp it is not a pulpless tooth until the pulp is removed. Hence the expression pulpless tooth should not be used unless the pulp has been removed. It is a tooth with a non-vital pulp. Either dead and present or removed, when of course it would be dead. Then we would make this sentence in the editorial read thus: "To-day physicians quite commonly speak of 'dead teeth' when they mean '*teeth with non-vital pulps*.'" The italics should take the place of "pulpless teeth" as in the editorial.

A Tooth in the Lung

A child of six who had been in delicate health was taken to Dr. Powers' office to have several teeth extracted. The child did not take the gas well and was allowed to come to without all the teeth having been removed. The prop was inserted on the right side and all the teeth removed on the left side upper and lower, as well as the teeth on the upper right side. No teeth were removed from the lower right side and yet it was a lower right deciduous molar which was recovered from the lung by a Winnipeg surgeon. Following the operation for the extraction the child began to cough, and although the tooth has been removed for months the child was too ill to appear in court. Much was made of the fact that Dr. Powers had not packed the throat for the operation, although both Dr. Banning and Dr. Merkley of Winnipeg had tried packing the throat and abandoned the practise. Nor does it follow that packing the throat is a sure preventive as was shown in a Hamilton case. The jury awarded the plaintiff \$2,000 damages, one thousand to the child and one thousand to the father. The jury ascribed the mishap to the fact that the dentist had both administered the anaesthetic and extracted the teeth.

Every statement or opinion made by the judge or jury in such cases is of vital importance in future cases.

An appeal has been asked for.

Dentists Cannot Employ Unregistered Assistants in Nova Scotia

After the introduction of a bill in the Legislature of Nova Scotia to prohibit unregistered dentists from practising under another dentist came a lengthy and spirited debate. It appears that a similar bill had been introduced on several occasions but failed because there were a couple of dentists who employed such assistants and claimed to, as a consequence, do dental operations at lower fees than other dentists. It did not occur to anyone that because these assistants had no license they could not get a fair wage or they must be incompetent, and as such should not practise, or if competent should have received both a license and a salary commensurate with their skill. This idea that a dentist no matter how skilful can direct the methods of practise of assistants is all nonsense. No assistant can be made skilful, honest or clean, by direction from a chief whose object is to run a paying business.

In order to defeat the bill, which comes into effect May 1st, 1927, many amendments were introduced, among them a taxing bill by which the fees of dentists would be taxed as the lawyers are. It is not so certain that this is not a good idea. Another good idea is to force the dental authorities who do not prevent licentiates from employing assistants to work for patients to give them a license to practise. Such a regulation would have cured the conditions existing in several provinces many years ago. If it could be shown that a licentiate employed an assistant to work

for patients and that such assistant was thereby entitled to a license such employers would at once fear the competition of such licentiates.

Another good amendment introduced was to compel every dentist to install a modern sterilizing outfit as would be approved by the Board of Health.

Every device known to preliminary practise was used to defeat the bill.

The sooner other provinces pass similar legislation the sooner dentists will be exonerated from a vicious form of selfishness.

Meeting of the International Association of Dental Research in Chicago, March 26, 1926

PROGRAMME

1. "Does the Excessive Ingestion of Milk Favor Deposition of Salivary Calculus?"—Presented by S. A. Karlstrom and William J. Gies, New York.
2. "A Preliminary Report on Clinical Research Relating to the Control of Caries."—Presented by Harold DeWitt Cross, Boston.
3. Informal Discussion of the Present Views Concerning Dental Caries.—Presented by Russell W. Bunting, Ann Arbor..
4. "The Power of Disinfectants to Sterilize Dentine."—Presented by Albert E. Webster and Miss C. J. Fraser, Toronto.
5. "Relation of Nasmyth's Membrane to Periodontia."—Presented by Kurt H. Thoma, Boston.

The above programme was presented, a short report of which follows.

No. 1. There is nothing to indicate that the excessive ingestion of milk favors the deposition of salivary calculus.

No. 2. Dr. Cross's report of the findings of dental caries among the children of the Forsythe Infirmary would indicate that the greatest reliance to prevent caries in masses must come from early treatment. The practise is to see the children for operative work, such as cutting out fissures, applications of nitrate of silver, and filling of cavities at the ages of six, nine, and twelve. The children are seen annually for oral prophylaxis. Oral hygiene alone is not expected to prevent dental caries.

No. 3. Dr. Bunting thought the profession had made little positive progress in accounting for dental caries from within, or in other words from metabolic changes in the structure of the tooth substance after the eruption of the teeth. He seemed to have more hope for preventing caries from without. In fact he said those marked gingival decays could be controlled by local treatment. In all such cases the bacillus acidophilis is present and could be controlled by prophylaxis and local applications of 1 in 5,000 solutions in water of metaphen. In a very few daily treatments that gummy appearance at the gingivae which is a characteristic of such cases will clear away.

No. 4. The report of C. Jane Fraser would indicate that the ordinary drugs used for the treatment of root canals are not always reliable in sterilizing the dentine. In fact they were about 50% efficient. It was also shown that bacteria readily pass from a root canal to the tissues beyond,

especially in large apical openings. And that in small openings there is little if any hope of a disinfectant in the canal having any influence on infections beyond the apex. Thus the treatment of a blind alveolar abscess through the root canal is only helpful in the possible chance of destroying what infection may be in the canal and thus prevents renewed infection to the tissues beyond. Dependence must be in nature's power to overcome such infections if apical surgery is not invoked.

No. 5. Dr. Thoma showed several slides which would indicate that Nasmyth's membrane is very delicate and is intimately associated with the gingival crevis. Whatever disturbs these delicate structures is a forerunner of periodontal disease. It would thus appear that scraping with sharp tools or polishing with gritty substances on brush wheels or wood plugs under the gums is an unwise procedure in normal mouths.

Notes

Four women will graduate from the Faculty of Dentistry, Toronto, in 1926.

"Every little dentist has a movement all his own" when it comes to brushing teeth.

Dr. R. O. Howie, 330 Homer Avenue, Vancouver, B.C., died in California March 4, 1926.

A Mr. Albert Minott, Hamilton, Ontario, was fined \$50 for practising dentistry without a license.

Dr. Chipman addressed the St. John Dental Society on the technique of removing foreign bodies from the lungs and bronchi.

The Ontario Dental Association will be attended this year by a number of noted dentists from various parts of this continent.

Free dental examination for everybody who wants such service will be available on October 20th, 1926, in connection with the Ontario Dental Health Day.

A Toronto paper tells a long story of a dentist who with his child left the city. It seems strange that a citizen cannot leave his home without notifying the newspapers.

The Edmonton Dental Society held its regular monthly meeting April 6th, at which Dr. Hope gave an address on Dental Pathology, a subject in which he lectures at the University.

Dr. Fred Westfield, a dentist of Klamath Falls, Ore., died after a ten days' fast. He advised the members of a luncheon club the day before his death not to undertake fasting unless they had special instruction.

Dr. James French of Cooksville, P.Q., died at Glendale, Cal.

A somnoform advertisement says that somnoform has been administered 8,000,000 times and earned \$16,000,000 for the dental profession.

"Three Minute Amalgams" was an interesting item on the programme in which a number of local dentists cited humorous incidents from their practise, as well as giving sound advice to the students present. Those speaking were Dr. Jas. McPherson, Dr. H. A. Gilchrist, Dr. G. S. Hope, Dr. W. R. Wilkinson, Dr. J. G. Roberts, Dr. F. S. Mercer, Dr. H. B. Wood and Dr. W. Scott Hamilton.

OFFICERS OF THE ACADEMY OF DENTISTRY, TORONTO, 1926-27

Officers of the Academy of Dentistry for 1926 were announced as follows: President, Dr. H. G. Robb; President-elect, Dr. H. S. Woollatt; Past President, Dr. W. G. Spaulding; Treasurer, Dr. H. H. Cummer; Secretary, Dr. S. S. Crouch; Councillors, Drs. T. Risdon, H. Clark, G. V. Fisk and W. A. Black.

PAUL REVERE A DENTIST

Among the other accomplishments, Paul Revere, the celebrated revolutionary figure, was a dentist by profession. He reared a large family and left a tidy sum for his family when he died in 1819. He was an advertising dentist also, calling attention to the fact that he could fix teeth so that they would be ornamental as well as serviceable for eating "as well as any surgeon dentist from London." His fame is handed down also as silversmith, though he was adept in several other arts.

CORRESPONDENCE

Editor,—

Edmonton, Alberta.

In Dr. Webster's article on the Dominion Dental Council we are given a brief sketch of the origin and aims of this body. Through this introduction comes the opportunity to discuss our many sided Canadian dental problems. Directly related to our national professional development we have the two great factors, race and geography. As we are compounded of the two greatest nations in the world, dentistry, to be truly Canadian, must be viewed through both French and English eyes. Any chance of sectionalism should be guarded against. The great dividing factor, geography, through natural means, has split our country into five great sections whose natural means of communication run North and South. At our door we have our powerful American neighbor. The cards seem stacked against us.

When we review these difficulties, it should give us considerable satisfaction to realize that already functioning in Canada, we have a dental organization constructed along the lines our American friends so long have striven to develop on but so far have failed to bring about.

Members of State Boards, Dental Societies, and Dental Faculties, met in conference in San Francisco recently, and went on record as opposing both dental reciprocity between States and a National Board of Examiners. This would indicate that many more years must pass by, and great work done before a Federal Dental Board can become operable in the United States. Although the D. D. C. is misnamed and has never functioned as a Dominion body, though it is lamentably weak as a leading spirit in dentistry, yet the fact that many of the difficulties in organization are done, places us as a profession in an extremely favorable position to go ahead, and build on the foundation. The criticisms offered are to be regarded as in no way aimed at the wrecking of this D. D. C. but as an endeavor to help in bringing about a much better state of affairs than at present exists.

The first point that strikes home is the weakness of construction of the D. D. C. Compare the Medical Council of Canada, the great work of Sir Thos. Roddick, with our organization. A Dominion Act of Parliament validates the certificate of the Council which is accepted in every Province in Canada. It could do no more. It covers the ground completely. On the other hand, the D. D. C. has no Dominion Act, no charter, no authority such as one would expect from such a name as "Dominion", would imply, and takes in seven Provinces only. Under our own Provincial Acts, our Associations are well and properly authorized to carry on business, hence, if we extend the courtesy of accepting the D. D. C. certificates without question, we have a right to request that they bear equal legal value to those we issue to one entering through our Provincial examination. It is beyond my comprehension that a body operating under a name suggesting Dominion-wide scope and authority should for so long have continued without suitable Dominion Legislative backing. It would seem that seven men have been trying to do too much. It is impossible for that small number, meeting at two year intervals only, to get anywhere with Dominion business. I suggest that strong committees for the proper selection of examiners, for disciplining, for financing, etc., be selected from the members at large, and the elected representatives confine themselves to executive work. I am sure dozens of our men stand ready to work to build up a thing of value to all; it is entirely too big an undertaking for so few to handle successfully.

When perusing the constitution of the D. D. C. the section on classes is a source of wonder. Can one conceive of class A. B. C. or D, professional dentists? It is nothing but fair that men well established years before the formation of the Council, should receive every consideration; but the creation of classes for later applicants has nothing to commend it but much to condemn. As in other professions, one class and one examination, is sufficient. At every meeting of the Council these classes are juggled with. The bi-annual reports show addition, subtraction, substitution or elimination, as the whims or caprices of the agreeing Provinces vary. A word added here, a phrase cut out there leaves the suspicion of loopholes for easy access to the certificate, and nullifies the idea of high standards the all embracing term "Dominion Dental Council", should suggest. Consider Class D. for a moment. If the elimination of advertising is the aim of the Council, class D, defeats it. It hits mainly at the American graduate. He can enter by our Provincial examination but is placed on probation for five years before being allowed to take the D. D. C. examination. These men are the only source of supply for the advertiser. If the D. D. C. was compulsory on coming to Canada, suitable affidavits

would insure future good behaviour, and advertising in Canada would die out in time.

A jealously guarded right is the special privilege of every Province to conduct its own examinations. "The standard of examination shall not at any time be lower than the highest standard for the like purpose then established for ascertaining the qualification for registration in any Province". Candidates who have prepared to take an examination, have paid a stiff fee, have signed affidavits as to future ethical conduct, should not be required to submit to write on papers set by other than Council members, of equal obligation as to ethics and of the highest calibre as practicing dentists. When the Provincial Boards, by accepting outside certificates for registration, substitute the findings of another body for that of their examining board, they have a perfect right to demand that it be equal or superior to their own. Some nine hundred men hold D. D. C. diplomas. Amongst those are good students of modern dentistry, who have taken postgraduate work and are familiar with modern dental literature. We have good men in all branches, practical and theoretical, then why are they passed by when examiners are selected for such important work? Only a year or so ago, such an impossible condition arose in this connection, that our Alberta men protested with a decided improvement as the result. A careful perusal of the papers shows that all is not done that should be done as yet, and I feel satisfied that Quebec and B. C. have ample justification for refusing to accept the findings of these examiners.

To-day we see Quebec and B. C. active members in the Medical Council, while B. C. has gone farthest of all in demanding the Medical Council certificate as their one and only means of registration. The same Provinces won't look at our D. D. C. When suitable legislation is sought, an examining board of the best men in Canada appointed, and something in the way of standards guaranteed they may accept the olive branch but at present their actions are not without good reason behind them. If this Council is to survive and fill the needs of all parts of the Dominion, it must be in accord with the underlying conditions and forces working for our professional advancement. It is faced with the situation of virile Western partners chafing at the voice of 1906 speaking for dentistry of 1926. If the Council recognizes its opportunities it can place Canada in the van as to successful national co-operative dental licencing.

LESLIE McINTYRE.

Regina, Sask., March 26th, 1926.

Dr. A. E. Webster,
Editor Dominion Dental Journal,
Toronto, Ontario.

Dear Dr. Webster:—The March issue of the Journal arrived to-day and I read with a good deal of interest your article therein on the "Dominion Dental Council." I quite agree with the sentiments expressed in this article and with the idea behind the writing of it and the ones yet to come. I will look forward to reading them with equal interest, and trust the series will be fruitful in bringing about a better understanding.

Yours sincerely,

W. D. COWAN,
Secretary D.D.C. of C.

I have been hoping this long while to live long enough to see Canada dentally one.—W. D. C.

The death of Dr. Daniel D. Ross, well-known Calgary dentist, occurred at his home in Elbow Park yesterday morning. Dr. Ross lived in the province some 25 years, nine of which were spent in Medicine Hat and the rest in Calgary. He leaves to mourn his loss his widow, one son, K. Clarke Ross, and one daughter, Mrs. Charles F. Sweetlove, both of Calgary. Dr. Ross was born in Brucefield, Ontario, and received his education in the University of Toronto. The funeral services, conducted by the Rev. Canon Horne, will be held at the Foster and Foster chapel on Friday at 2 o'clock. Interment will take place in the Burnsland cemetery.

Dr. Gabriel John Clint, pioneer dentist of Winnipeg, died at the family residence, 722 Wolseley avenue, Thursday night. He was a native of Smiths Falls, Ontario, born in 1849. He came to Winnipeg in 1891, and established in his profession, in which he had been active up to the time of his last illness. In the days of his activity Dr. Clint has taken a prominent part in the work of Grace church, having for many years been a member of the board of that body. He was also active in the Masonic Order as a member of the Ancient Landmark lodge; in the Oddfellows, too, he had been prominent, his association having been with North Star lodge.

Dr. Clint is survived by his wife, three sons, Dr. A. E. Clint and M. B. Clint, of Winnipeg, and J. F. Clint, of Detroit, Mich., also five daughters, Mrs. E. G. Perley, of Wolseley, Sask., Mrs. A. A. Sykes and Mrs. Harold Aikins, of Winnipeg, and Misses Gertrude and Lillian at home.

Dr. Wilbert John Wilkey, one of the younger dentists, died at the home of his father, W. J. Wilkey, 510 Quebec street, following six months illness. He was 30 years old. The late Dr. Wilkey was born in London, Ont., and outside of two and a half years spent in the Canadian army and a year practising at Parkhill, had lived his whole life here. He received his education at the Lorne Avenue Public School and local collegiates and his dental education at Toronto University.

Dr. Wilkey, while still a student at Toronto University, enlisted in the Canadian Army with the A. M. C., and for two and a half years saw service aboard a hospital ship on the Atlantic Ocean. He crossed that body of water 25 times during this period.

Upon being discharged from the army, he returned to school and two years later graduated. He practised in Parkhill for one year and for a time did work in this city, but not actively.

Besides his widow, he is survived by two young sons, Jack and Bill; his parents, Mr. and Mrs. W. J. Wilkey, of 510 Quebec street; two brothers, Dr. Lorne Wilkey, dental surgeon, of Milverton; and Bill, at home; one sister, Miss Mary Wilkey, at home.

SPECIAL THIS MONTH — New Burs \$7 — ROUND — INV. CONE — WHEEL—size 3/0, 20c per dozen. HIGHEST prices paid for scraps, etc. We RECUT your used burs extra sharp at 25c per dozen. Sheun Co., 602 Oakwood Blvd., Chicago, Ill., Established 1906.

DENTAL MECHANIC wants position in Canada; 11 years' experience, 6 Scotland, 5 U.S.A.; plate or gold; can assist at chair. J. Davidson, 707 E. St., Lawton, Okla., U.S.A.

Dominion Dental Journal

Vol. XXXVIII

TORONTO, MAY, 1926

No. 5

ORIGINAL COMMUNICATIONS

The Physician's, the Dentist's and the Public's Responsibility in Dental Caries, Focal Infection and Oral Sepsis.

A. E. WEBSTER, D.D.S., M.D.S., M.D.

Before discussing those factors which promote or interfere with the normal development of the human teeth, it is well to set forth the dates at which each step occurs. This data has been gathered from the standard works on Embryology, Biology, Physiology and Anatomy. It is to be noted that calcification of the permanent teeth begins in the first molars about birth. So a special diet for pregnant women can have little direct influence on the calcification of the permanent teeth.

CALCIFICATION, DECALCIFICATION, AND ERUPTION OF TEETH

DECIDUOUS TEETH.			
	Begins.	Complete.	Erupts.
Centrals	4 F.M.	17th to 18th M.	6th to 8th M.
Laterals	4 F.M.	14th to 16th M.	7th to 9th M.
Cuspids	5 F.M.	2 yrs.	17th to 18th M.
1st Molar	5 F.M.	18th to 20th M.	14th to 15th M.
2nd Molar	5 F.M.	2 yrs.	17th to 18th M.

DECALCIFICATION.			
	Begins.		Loss.
Centrals	4th Yr.		7th Yr.
Laterals	5th Yr.		8th Yr.
Cuspids	9th Yr.		12th Yr.
1st Molar	6th to 7th Yr.		10th Yr.
2nd Molar	7th to 8th Yr.		11th to 12th Yr.

PERMANENT TEETH.			
	Begins.	Complete.	Erupts.
Centrals	1st Yr.	10th to 11th Yr.	7th to 8th Yr.
Laterals	1st Yr.	10th to 11th Yr.	7th to 8th Yr.
Cuspids	3rd Yr.	12th to 13th Yr.	12th to 13th Yr.
1st Bicusps	4th Yr.	11th to 12th Yr.	10th to 11th Yr.
1st Molar	8th F.M.	9th to 10th Yr.	6th to 7th Yr.
2nd Bicusps	5th Yr.	11th to 12th Yr.	11th to 12th Yr.
2nd Molar	5th Yr.	16th to 17th Yr.	12th to 14th Yr.
3rd Molar	9th Yr.	18th to 20th Yr.	17th to 20th Yr.

INTERFERENCES WITH TOOTH DEVELOPMENT

(A) *Diet.*

Pickerel found marked differences between the smooth surfaces of enamel in native and civilized races.

Mellanby observed both enamel and dentine to be defective in structure in civilized races as well as in the teeth of dogs fed on a ricketic diet. There were also much wider fissures in teeth of rickety dogs.

Sir Frank Collyer found that of 20% of wild monkeys' teeth which were decayed, the cavities occurred in the occlusal surfaces, while 80% of decayed teeth of captive monkeys had occlusal cavities, thus it would appear that there are more defects in captive monkeys' teeth than in those native-born.

Acute Infectious Diseases associated with high temperatures and especially those with skin manifestations. E.g., Syphilis, measles, scarlet fever, etc., show enamel defects. Hypoplasia, Atrophy of teeth chief defects are in dentine.

Nutrition and Diet in Health. By Fitch, 1928. "The craving for sweets in the adolescent is a normal one. Generations back sugar was supposed to cause tooth decay. Theory exploded and tooth brush has robbed it of any dangers. The theory that the pregnant woman should eat foods containing organic salts to produce bone in the infant has been exploded generations ago. The theory that an easy birth can be induced by the mother avoiding foods containing phosphates of lime is also exploded. But it is admitted that the size of the child can be reduced and thus reduce dangers of child birth."

Watson recommends a diet low in calcium phosphate and carbohydrates during the last 3 months to insure an easy birth.

Diet in Health and Disease, 1925. By Friedenwald & John Ruhak.

"The diet of women pregnant should contain Vitamine A and an abundance of calcium and phosphates containing foods, so as to not have the bones and teeth robbed of calcium."

The physician who has been in the habit of withholding animal fats, fish, green vegetables, milk, butter, sunlight and salts from pregnant women to make an easy birth are committing a crime against the child. While we know the pathology or the process of dental caries, we do not know just what factors bring it about. We do know that defects of structure play a large part and that diet or environment a still more important part.

It is just here that the physician comes in. It falls to his lot to guide expectant mothers safely through the period of gestation and parturition. For many it is an anxious time. Often there is to be a choice between mother and child. This can be no better exemplified than in the diets recommended for the normal pregnant woman. Whether a birth can be made easy by insufficient calcium phosphates, iodine and vitamins or not, it is certain that teeth can be made defective by the lack of such diets. *Mellanby, McCollum, Pickerel, Howe.*

Notwithstanding the opinion of Doctor Fitch just quoted, there is a well grounded conviction among dentists that an excess of a carbohydrate diet will in some way induce dental caries. Every observing dentist has seen it, besides this, Sim Wallace convinced himself and others of the fact by feeding a number of boys on a low carbohydrate diet, while their companion's had a high carbohydrate diet. If the facts are as stated, then the physician's responsibility for the prevention and treatment of dental

caries is no insignificant one. When he sees the child, then the adult, of a woman who was fed on slops and a rachetic diet to make soft bones and an abundance of nurse first with decaying teeth, then pulpitis, oral sepsis, and finally focal infection with all its consequences, he must think of his share in it all. He must not forget either that the kind of diet that makes defective teeth makes defective bones, and consequently irregularities of jaws and teeth. (Mellanby, Sir Arthur Keith).

What Can the Dentist Do? The teeth are all made before he sees the child, except possibly the third molars.

He can

1. Teach it to masticate.
2. Teach it Oral Hygiene.
3. Give regular Oral Prophylactic treatments.
4. Medicate and repair defects.
5. Insert fillings.
6. Establish and maintain normal occlusion.

Oral Sepsis of Hunter—Oral Sepsis is a state of chronic uncleanness of the mouth due to lack of function, infection, accumulation of food products, calculus, and mucus, accompanied with dental caries and pyorrhoea.

Oral Sepsis is the forerunner of contiguous infections (e.g.) tonsils, glands about the lower jaws, the sinuses of the head and face, the alimentary tract, alimentary disturbances and cancer, anaemia, acute general peridontitis, trench mouth, osteomyelitis.

Focal Infection—In all cases of injury it is wise to examine the mouth and tonsils for focal infection.

Focal Infection is the term applied to general or local systemic disease resulting from infection or bacterial intoxication arising in some focus of infection.

Most frequent sites of location of infection — Teeth, tonsil, nasal sinuses and the genito-urinary organs. Besides these they may occur in the bronchi lung abscess, gastro intestinal tract (appendix, gall bladder, hemorrhoids, colitis), prostate bladder, carbuncles, middle ear.

Organisms Chiefly Responsible—Streptococcus, Viridans, Hemolyticus.

Streptococcus—Found in head and respiratory tract. Secondarily in lymph nodes, joints, appendix, gall bladder, intestine.

Bacillus Fusiformis—In the mouth.

Modes of Causing Disease—Hematogenous, Blood, Lymphogenous, Lymph, Anaphylaxis, Sensitization.

Diseases Caused by Focal Infections:

1. *Rheumatisms*. The varying types of rheumatic manifestation arise from the varying types of Streptococci which are the cause. Streptococcus rheumaticus is a diplococcus.

2. *Heart Affections*—Endocarditis, Ulcerative Endocarditis, Myocarditis, Rheumatic Pericarditis.

3. Arteriosclerosis.

4. Muscular Rheumatism.

5. Acute Chorea.

6. Peripheral Neuritis.

7. Herpes.

8. Abscess of the Brain.

9. Acute Appendicitis.

10. Ulcer of the Stomach.

11. Pancreaticitis.
12. Nephritis.
13. Thyroiditis.
14. Osteomyelitis.
15. Erythema Nodosum.

Diagnosis—The diagnosis is exceedingly difficult. There are a great number of factors involved in every disease. So it is very difficult to say which of the many possible causes may be the essential one. A thorough examination is necessary, together with a good history. Vitality or non vitality of pulp. Depth of tooth decay. X-Ray pictures.

Treatment—Extraction, Extraction and Curettage, Trephine, Root Resection, Medical Treatment, Syphilis, Tuberculosis, Rheumatisms, Heart Affections, Diabetes, Anaemia, Arteriosclerosis. These latter demand the most radical treatment.

A Pulp Comfortable for Twenty Years Under a Capping of Oil of Cloves and Oxide of Zinc

On Easter Monday, 1906, a school teacher had an upper right third molar filled with amalgam covering a pulp capping of oxide of zinc and oil of cloves.

The patient gave a history of pain before the operation and hypersensitiveness during the operation. The filling and tooth were extracted in March, 1926. The pulp was alive and the filling in place when the tooth was extracted, thus giving twenty years of service. The crown fractured during the extraction and exposed the cement pulp capping as may be seen in the cut.



History and Progress of Inlay Construction

C E. TOLL

The origin of Inlay Construction and its attending processes is not definite. However on careful study and investigation I find some of the basic steps more ancient than the Golden Fleece or Roman Eagle. Even in 2230 B.C. Herodotus refers to busts, statues and figures adorning the Temple of Belus, which had been constructed by the "Cere Perdue" or lost wax method. Even searching the Scriptures, I find in Isaiah, when Aaron in 712 B.C. under some satanic influence commandeered the rings of the fair sex of the children of Israel and by a similar process constructed the famous Golden Calf.

Excavations and researches show that during the period 160-600 A.D. the Maya tribe of Central America used inlays. The Egyptians up to 500 A.D. used lead and lint as shown by mummy preservations. The Negroes of Central Africa file their teeth similarly as did the Mayas but for effectiveness in battle, instead of color and decoration.

Operative Dentistry may be confined as to origin, with the Maya civilization in the regions of Mexico, Ecuador and British Honduras. Their culture reached its height about 600 A.D. Dr. Chuvir has discovered several skulls of that period. Cylindrical holes containing gold, jadeite and other gem stones were found in anterior teeth.

Decoration seemed uppermost in the minds of the race and colors of red from hematite, blue from turquoise, black from obsidian, gives expression of a fondness for ornamentation always characteristic of a savage race.

Their instruments were slender knife-like blades from chipped stone and were used as files and chisels, no doubt in the direction of the enamel rods. Cavity preparation in the case of hyper-sensitivity was preceded by a thorough mastication of coca leaves and lime. This caused the pulp to retract and the operation more harmoniously expedited.

The art of inlay seems to have been dormant from this time and casting, too, fell to a lower standard as shown by the lions of Nelson's Monument and the specimens of the British Museum. The casting process, however, shows some interesting antique machines, one of 1809—a mold revolving on spindles—and another of 1819 of a pressure system.

In 1846 at the National Exhibition cast gold flowers and insects made by Germans were shown. Moreover it remained (though we hate to allow it) that it was a German, Woofendale, who introduced gold fillings into America a short time afterwards. About 1850 we have records of pieces of artificial teeth being ground to fit cavities. Besides artificial teeth, gold leaf, gold plate, glass and porcelain inlays were used in the early 50's. The glass inlay fell in disrepute due to discoloring and opaqueness, but the porcelain has survived.

In 1885, I find that a Dr. Carroll, of Meadville, Penn., invented the first gold pressure casting machine and used it to cast plates by pressure.

No details of construction or operation can be found, but he gave it to the profession free.

In 1894 Dr. Reese cast a gold alloy crown for the superior lateral root and had apparent success. Dr. Swayze about this time used soldering method with metal matrix.

Following closely behind in 1895 we observe that Dr. Trigger, of St. Thomas, Ontario, and also some of our men from the Royal College of Dental Surgeons did casting.

In 1903 Dr. C. V. Vignes, of New Orleans, made a gold inlay using pink paraffin. He used a wax sprue, and a small funnel shaped investment. He tried to place gold fillings within the mold and then melt them. His result was a gold pellet. His second trial was by burnishing and melting, which was a partial success. The same year a Dr. Judson is accredited with casting an inlay.

The big gun, however, was fired by Dr. William H. Taggart, of Chicago, when in January, 1907, he read a paper before the New York Odontological Society on disappearing molds. Previous to this he had obtained from a Frenchman of Quebec patents on an earlier casting method, so that by December, 1907, he patented at the United States patent office, four patents for his own "supposedly original" method. Taggart also contrived four automatic machines, and without undue influence and with strict impartiality, it may be rightly said that he is the true father of gold inlays.

The dental profession in the United States, Canada, and the world at large soon heard of and recognized the worth of this method. On investigation I find that in the spring of 1908 casting gold inlays was introduced at the Royal College of Dental Surgeons. Many details as to materials and technique have since been worked out, but suffice it to say that the inlay at once became so popular and was used by every Dick and Harry that it has been truly described, in the hands of a careless operator, as "an island of gold in a veritable sea of cement." However improvements were being made by careful men, while papers and discussions at conventions aided materially in disseminating correct technique knowledge.

The climax period in this stage was reached when the famous Taggart cases were placed before the courts. The two chief ones worth mentioning here being the Boynton and the Moll cases.

The former case dealt with infringing on the making of wax patterns. In 1909 the case was first decided in Taggart's favor. It aroused such discussion that in 1913 the Appellate Court of the District of Columbia under Justice C. H. Robb, nullified and reverted the former decision of the lower court.

The Moll case dealt with the infringement of molds and castings. In this Judge Landis gave decision in favor of Taggart, thereby prohibiting Moll from making or selling inlays of cast metal. As a result new machines (and I might mention that three hundred were patented afterwards) and new methods were the consequence.

In passing this phase, I wish to add tribute to the careful work of Dr. Taggart. His inventions and efforts have done much for inlay work and dentistry as a whole. His machines, I might briefly mention, namely, the wax heater, the investment mixture machine, wax burner and casting machine.

These are all automatic, and after much research, I discovered a lone Taggart Casting Machine in a laboratory and had the pleasure of

seeing it in operation. It is a pressure machine using nitrous oxide and gas for the blow pipe flame and nitrous oxide for pressing the gold into the mold. This machine retailed at one hundred and twenty dollars, and has the following advantages:

1. Automatic in actions.
2. Retains pressure.

Its disadvantages are:

1. Complicated.
2. Operation more expensive.

Other machines in use are the centrifugal, the suction along with the steam and mechanical methods. All these are products of evolution in the history of inlay casting and development of each is a chapter or sequel in itself. The centrifugal finds greatest popularity due to ease of operation and method of retaining pressure, the last mentioned methods being at best unreliable.

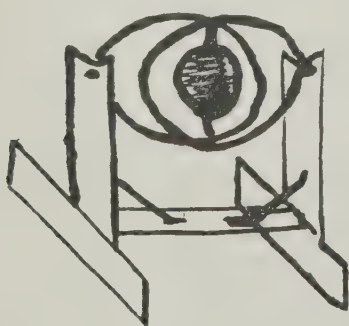
Progress in the development of wax manufacture, investment materials and instruments for cavity preparation are being made, but as a good inlay rests on a good cavity, I might mention a few essentials which have been handed down to posterity. These are, namely, upright and stable walls, no undercuts, retention and depth, and a generous bevel. With these ideas in mind and a good technique mastered, the operator may boldly attack the most threatening preparation.

Latest developments have found that wax composed of gum dammar, paraffin and carnabauer and gold in the purest form give best results.

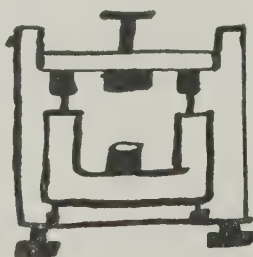
Though technique is not to be included in this brief review a word as to methods in vogue, namely, Direct and Indirect or the Impression method.

By the former we mean the inserting, carving and finishing wax pattern within the mouth; by the latter, that of taking an impression and making the inlay from a model. A few advantages of both might be stated. The Indirect or Water bag process, introduced by a London manufacturing firm, saves the patient's time; adaptable for nervous patients and children; less liability from accident, annoyance to patient, while in favor of the Direct method is the correction of any possible distortion on original tooth and three transfers instead of five are necessary.

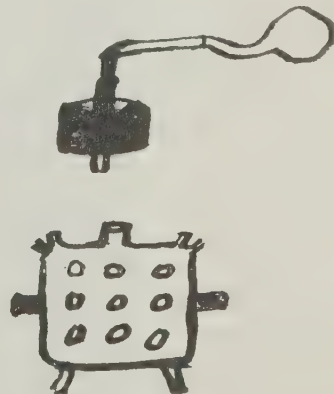
Lastly in this brief summary of one of the most romantic developments of the history and progress of our noble profession, one finds a high ideal in the honest endeavor of our painstaking predecessors. In the days that are to come may the history, not only of the inlay in particular, but of the Dental Profession in general be of even greater and more beneficial achievements.



One of 1809



One of 1819



Gold Pressure Casting Machine

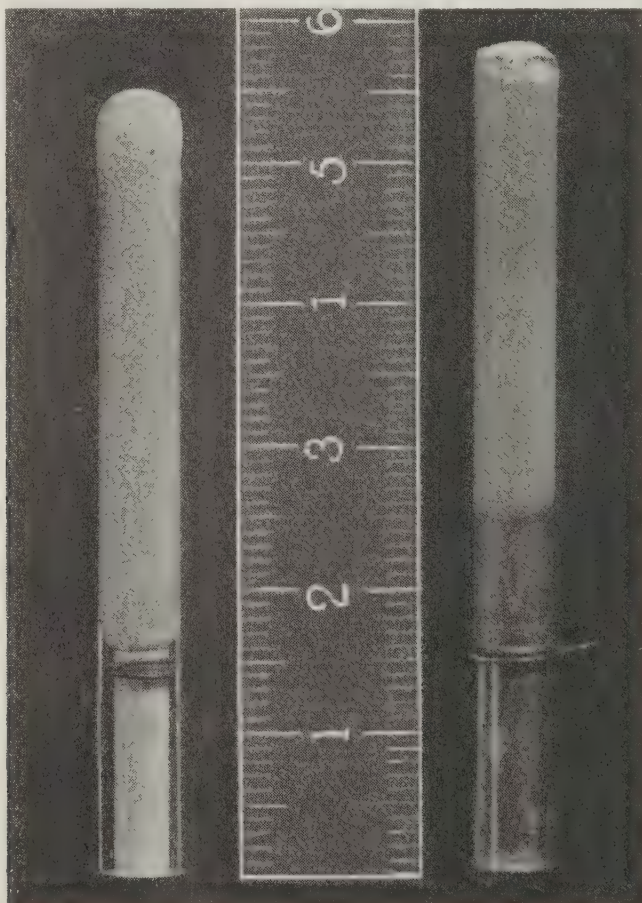
Relative Conduction Property of Oxyphosphate Cement and Silver Amalgam

An essayist who appeared before the London, Ontario, dental society made the statement that there was not enough difference between the conducting power of cement and amalgam to make any difference which was used close to a vital pulp.

Most dentists believe that there is a marked difference in the conductivity of the two substances, but there does not seem to be any experiments published in dental literature which indicate the differences.

Glass tubes about 4 m.m. bore and three inches long were filled with cement and amalgam. Wire was bound about the tubes equal distance from one end. The tubes were then dipped in molten paraffin, which hardened on the surfaces about equal thickness throughout. The paraffin was scraped off the tube from the wire to the end. Two holes were punched through a piece of asbestos paper and the tubes inserted upright into the holes. The paper was then placed over a pan of hot water, the tube ends being immersed in the water. The distance between the wire and the point where the wax is not melted off indicates the relative conducting power of cement and amalgam. Judged by the scale between the two tubes the conducting power of amalgam is about ten times greater than that of cement.

Thus it would appear that cement is a very much safer protection to a dental pulp than amalgam.



Members of the Staff of the School of Dentistry of the Royal College of Dental Surgeons from November 1875 to 1925

* signifies still on the staff
† signifies deceased

21	Abbott, E. C.	73	*Grant, E. A.
158	Agnew, R. G.	125	Green, W. F.
90	*Anderson, G. R.	83	Grieve, G. W.
71	*Ante, I. H.	101	*Halloran, H. H.
109	Armstrong, J. W.	89	Hanley, T. R.
110	Babcock, A. B.	146	Harrison, H.
57	Badgley, F. L.	23	Henderson, Thos.
88	Baker, H. W.	30	Hermiston, G. M.
117	Banks, J. L.	8	Hipple, A. H.
118	Bean, H. G.	126	Hoag, H. W.
139	*Beatty, J. W.	147	*Holmes, W. T.
32	Becker, F. C.	174	*Holmes, W. W.
111	*Beirel, G. D.	148	*Hoskin, H. A.
119	Blandin, M. H.	127	*Hugill, W. L.
42	*Bothwell, J. A.	22	*Hume, G. G.
72	*Box, H. K.	167	*Hunter, A.
166	*Box, R. M.	102	Husband, F. C.
75	Boyle, L. F.	103	*Ingram, J. W.
78	Boyle, R. C.	128	*Jarma, F. S.
142	Bramfitt, G. N.	129	Jeffreys, C. W.
140	Brodey, A.	33	Jordan, A. R.
39	Brooks, C. E.	56	*Kennedy, C. A.
91	Brown, J. W. E.	130	Kilgour, H. B.
141	Brown, W. E.	46	Klingner, H. E.
35	Brownlee, B. E.	168	*Klotz, O.
66	Bruce, E. E.	98	*Krueger, L. F.
97	†Burgess, R. M.	62	Lancaster, H. M.
143	Butt, C. F.	64	Law, F. G.
79	Campbell, E. H.	115	Leggett, W. C.
120	Campbell, E. T.	104	Leuty, H. D.
9	Capon, F. J.	95	Loveridge, W. A.
112	Chalmers, W. L.	169	Macallum, A. B.
12	Clark, Harold	175	MacDougall, C. S.
26	Clarkson, F. A.	11	†MacKenzie, J. J.
40	Clarkson, Harold	60	*MacLaurin, N. T.
144	Clement, F. W.	149	Martin, W. E.
159	Coates, F.	55	*Mason, A. D. A.
16	Cohoe, W. P.	31	Maxwell, L. A.
113	*Cole, F. L.	20	McDonagh, A. J.
92	Collard, C. R.	161	McHenry, E. W.
100	*Cowling, Thos.	6	†McKinlay, A. C.
81	Coon, W. H.	80	†McLaughlin, R. G.
38	*Coram, J. W.	15	†Mills, Hon. D.
67	*Coram, G. H.	69	†Minns, C. R.
53	*Corrigan, C. A.	105	Montgomery, R. J. M.
76	Covey, Geo.	176	*Montgomery, A. E.
63	*Cowling, Thos.	162	*Morton, G. V.
173	*Cox, M. A.	150	Oldham, G. E.
121	*Crouch, S. S.	151	Ott, B. M.
27	*Cummer, W. E.	152	Palmer, H. S.
145	Davison, L. R.	87	Parker, C. B.
59	Dawson, T. W.	41	*Paul, E. W.
36	†Doherty, W. H.	10	*Peters, G. A.
122	Drew-Brook, L.D.	170	*Pratt, E. J.
82	Dolson, W. J. M.	84	Priestman, J. A.
77	*Duff, J. H.	24	Price, F. D.
160	Eldon, F. T.	14	Primrose, A.
34	*Fife, B. O.	106	Pye, A. C.
4	Fisher, R. M.	54	Raper, H. S.
114	Fisk, G. V.	29	Reade, R. J.
123	Flett, D. M.	51	Richardson, H. M.
165	*Foster, Merle	131	*Richardson, S. M.
74	*Gardiner, B. R.	132	*Riddle, Miss W. C.
93	Garvin, F. G.	163	*Rigsby, E. M.
94	Gausby, E. L.	47	*Risdon, F. E.
124	*Godfrey, R. J.	177	*Robb, H. G.
44	*Graham, J. S.	107	Robinson, T. A.
45	Graham, T. H.	153	Robinson, J. L.

19	Ross, J. F.	17	Trotter, W. C.
154	*Ross, H. A.	52	Veitch, E. C.
70	Ryerson, E. S.		
86	Scott, F. R.	156	*Walker, R. R.
43	*Seccombe, W.	49	Wallace, C. V.
133	*Sheldon, J. M.	136	Wallace, J. B.
48	Slade, J. A.	157	Ward, F. W.
68	Smith, W. C.	108	Watson, P. J.
164	Sparks, W. E. L.	137	Watson, R. M.
5	†Spaulding, A. W.	171	*Watt, J. C.
18	Spaulding, W. G. L.	13	*Webster, A. E.
28	Stewart, A. A.	138	Westman, L. E.
134	Stewart, R. B.	116	White, J. G.
3	†Stuart, W. T.	99	Wickett, W. C.
155	*Switzer, W. G.	61	Wilcox, G. A.
		1	†Willmott, J. B.
178	Taylor, R. F.	7	*Willmott, W. E.
2	†Teskey, Luke	58	Wilson, J. O.
25	Thornton, A. W.	37	Wood, W. G.
65	Thornton, R. D.	50	*Woollatt, R. S.
85	Tovell, H. M.	172	*Wright, W. J. T.
135	*Trelford, W. G.		

A List of the Staff of the School of Dentistry in the Order of Their Appointment and the Positions They Held Until July 1st, 1925

Note—† signifies deceased.

* signifies still on the staff, October 1925*

- 1—† **J. B. Willmott, M.D.S., D.D.S., LL.D.**
 1875—1915 Dean
 1875—1905 Professor Operative Dentistry
 1875—1888 Professor Mechanical Dentistry
 1888—1908 Professor Prosthetic Dentistry
 1875—1905 Professor Dental Pathology
 1875—1877 Professor Chemistry
 1875—1889 Professor Materia & Therapeutics
 1901—1915 Professor Jurisprudence.
- 2—† **Luke Teskey, L.D.D., M.D., C.M., M.R.C.S., Eng.**
 1875—1877 Professor Anatomy
 1875—1877 Professor Physiology
 1875—1903 Professor Dental Histology
 1875—1876 Professor Oral Surgery
 1875—1889 Professor Dental Surgery
 1877—1879 Professor Chemistry
 1879—1893 Professor Visceral Anatomy
 1879—1893 Professor Physiology
 1889—1905 Professor Principles & Practice of Medical Surgery as applied to Dentistry.
- 3—† **W. T. Stuart, M.D., C.M.**
 1877—1916 Professor Regional Anatomy
 1877—1879 Professor Visceral Anatomy
 1877—1879 Professor Physiology
 1879—1911 Professor Chemistry
 1911—1916 Professor Inorganic Chemistry
 1905—1909 Demonstrator Practical Chemistry
- 4— **R. M. Fisher, L.D.S., M.D., C.M.**
 1877—1883 Demonstrator and Teacher of Practical Dentistry
- 5—† **A. W. Spaulding, L.D.S.**
 1880—1882 Demonstrator and Teacher of Practical Dentistry
 1885—1889 Demonstrator and Teacher of Practical Dentistry
- 6—† **A. C. McKinley, L.D.S.**
 1883—1885 Demonstrator and Teacher of Practical Dentistry
- 7—* **W. E. Willmott, L.D.S., D.D.S.**
 1889—1894 Demonstrator and Teacher of Practical Dentistry
 1889—1893 Lecturer, Materia Medica and Therapeutics
 1892—1894 Clinical Professor of Operative Dentistry
 1892—1908 Professor of Dental Technic
 1894—1910 Professor Clinical Dentistry
 1894—1897 Superintendent of Infirmary
 1897—1908 General Superintendent
 1908—1925 Secretary Faculty Council
 1910—1912 Associate Professor Prosthetic Dentistry
 1910—1912 Chief of Prosthetic Clinic
 1912—1916 Professor Clinical Dentistry
 1912—1925 Professor Materia Medica and Pharmacology

- 1916—1922 Professor Clinical Prosthetic Dentistry
 1920—1925 Assistant Demonstrator Practical Physiology
 1922— Associate Professor Prosthetic Dentistry
- 8— **A. H. Hipple, L.D.S., D.D.S.**
 1892—1893 Instructor in Crown and Bridge Work
- 9— **F. J. Capon, L.D.S., D.D.S.**
 1893—1899 Professor Crown and Bridge Work
- 10—† **G. A. Peters, M.B., F.R.C.S., Eng.**
 1893—1894 Professor Visceral Anatomy and Physiology
- 11—† **J. J. MacKenzie, B.A.**
 1893—1908 Professor Histology, Bacteriology and Comparative Dental Anatomy
- 12— **Harold Clark, L.D.S., D.D.S.**
 1893—1907 Professor Materia Medica and Therapeutics
- 13—* **W. E. Webster, M.D.S., D.D.S., M.D.**
 1894—1895 Demonstrator Dental Technic and Prosthetics
 1895—1899 Demonstrator Operative Dentistry, Dental Technic and Prosthetics
 1899—1908 Demonstrator Operative Dentistry and Operative Technic
 1899—1906 Professor Orthodontia
 1899—1906 Demonstrator Orthodontia
 1906—1913 Professor Operative Dentistry and Dental Pathology
 1913—1923 Professor Operative Dentistry, Dental Pathology and Therapeutics
 1915—1923 Dean
 1923— Honorary Dean
 1923— Professor Operative Dentistry and Therapeutics
- 14— **A. Primrose, M.B., C. M. Edin, M.R.C.S. Eng.**
 1894—1905 Professor Visceral Anatomy
 1905—1906 Professor Medicine and Surgery
 1906—1908 Professor Surgery
 1908—1914 Professor Medicine and Surgery
- 15—† **Hon. David Mills, LL.D., Q.C.**
 1894—1901 Lecturer on Jurisprudence
- 16— **W. P. Cohoe, B.A.**
 1896—1898 Demonstrator in Practical Chemistry
- 17— **W. C. Trotter, B.A., L.D.S., D.D.S.**
 1898—1904 Demonstrator in Practical Chemistry
 1904—1905 Demonstrator in Practical Chem. and Metallurgy
- 18— **W. G. L. Spaulding, L.D.S., D.D.S.**
 1898—1906 Librarian
- 19— **J. F. Ross, L.D.S., D.D.S.**
 1899—1908 Instructor in Porcelain
- 20— **A. J. McDonagh, L.D.S.**
 1899—1903 Professor Crown and Bridge Work
 1909—1915 Lecturer and Clinician on Pyorrhoea Alveolaris
 1915—1916 Lecturer and Clinician on Periodontology
 1916—1923 Professor of Periodontology
- 21— **E. C. Abbott, L.D.S., D.D.S.**
 1899—1907 Demonstrator of Operative and Prosthetic Dentistry
- 22—* **G. G. Hume, L.D.S., D.D.S.**
 1899—1907 Demonstrator of Operative and Prosthetic Dentistry
 1900—1908 Secretary Faculty Council
 1906— Professor Orthodontia
- 23— **Thos. Henderson, L.D.S., D.D.S.**
 1902—1908 Instructor in Nitrous Oxide
- 24— **F. D. Price, L.D.S., D.D.S.**
 1902—1916 Instructor in Electro-Therapeutics
 1916—1923 Professor of Electro-Therapeutics
- 25— **A. W. Thornton, L.D.S., D.D.S.**
 1903—1913 Professor Crown and Bridge Work
- 26—* **F. A. Clarkson, M.B.**
 1905—1906 Professor Visceral Anatomy and Physiology
 1906—1918 Professor Physiology
 1918—1925 Professor Physiology and Hygiene
 1918— Professor Medicine
- 27—* **W. E. Cummer, L.D.S., D.D.S.**
 1906—1909 Demonstrator Operative and Prosthetic Dentistry
 1906—1911 Librarian and Curator Museum
 1908— Professor Prosthetic Dentistry
 1908—1910 Professor Metallurgy
 1916—1921 Professor Applied Physics
 1921—1923 Associate Professor Applied Physics
 1923—1925 Professor Shop Technic
- 28— **A. A. Stewart, L.D.S., D.D.S.**
 1906—1909 Demonstrator Operative and Prosthetic Dentistry
 1909—1912 Associate Professor Clinical Dentistry
 1910—1912 Chief of Operative Clinic
 1912—1913 Clinical Professor Operative Dentistry
 1913—1921 Professor Crown and Bridge Work
- 29— **R. J. Reade, M.A., M.D., C.M., L.D.S., D.D.S.**
 1906—1908 Professor Medicine
- 30— **G. M. Hermiston, B.A., L.D.S., D.D.S.**
 1906—1916 Professor History and Ethics
 1916—1917 Professor History of Dentistry and Ethics
- 31— **L. A. Maxwell, L.D.S., D.D.S.**
 1907—1910 Clinical Instructor and Demonstrator
 1911—1912 Clinical Instructor and Demonstrator
- 32— **F. C. Becker, L.D.S., D.D.S.**
 1907—1908 Clinical Instructor and Demonstrator
- 33— **A. R. Jordan, L.D.S., D.D.S.**
 1907—1908 Clinical Instructor and Demonstrator

- 34—* **B. O. Fife, L.D.S., D.D.S.**
1907—1910 Clinical Instructor and Demonstrator
1910—1913 Chief Afternoon Operative Clinic
1913— Professor of Clinical Operative Dentistry
- 35— **B. E. Brownlee, L.D.S., D.D.S.**
1907—1908 Clinical Instructor and Demonstrator
- 36—† **W. H. Doherty, L.D.S., D.D.S.**
1907—1909 Clinical Instructor and Demonstrator
1909—1915 Professor Dental Anatomy and Comparative Dental Anatomy
- 37— **W. G. Wood, L.D.S., D.D.S.**
1908—1909 Clinical Instructor and Demonstrator
- 38—* **W. J. Coran, L.D.S., D.D.S.**
1908—1911 Clinical Instructor and Demonstrator
1911— Professor Dental Ceramics
1913—1920 Associate Professor Clinical Dentistry
- 39— **C. E. Brooks, L.D.S., D.D.S.**
1908—1909 Clinical Instructor and Demonstrator
- 40— **Harold Clarkson, L.D.S., D.D.S.**
1908—1912 Professor Materia Medica and Pharmacology
- 41—* **E. W. Paul, L.D.S., D.D.S.**
1908—1909 Instructor Anæsthesia
1909—1914 Instructor Anæsthesia and Exodontia
1914—1916 Lecturer and Clinician Anæsthesia and Exodontia
1916— Professor Anæsthesia and Exodontia
- 42—* **J. A. Bothwell, L.D.S., D.D.S.**
1908—1911 Clinical Instructor and Demonstrator
1911—1913 In charge Freshman Prosthetic Laboratory
1915—1920 Clinician General Hospital
1920— Associate Professor Clinical Prosthetic Dentistry
- 43—* **Wallace Seccombe, L.D.S., D.D.S.**
1908—1912 Representative of Board of Directors in College
1912—1923 Superintendent
1913—1923 Professor Dental Economics
1915—1917 Librarian and Curator Museum
1916— Professor Preventive Dentistry
1923— Dean
- 44—* **J. S. Graham, M.B., M.R.C.S.**
1909—1912 Professor Histology and Bacteriology
1912— Professor Histology, Bacteriology and Pathology
- 45— **T. H. Graham, L.D.S., D.D.S.**
1909—1910 Clinical Instructor and Demonstrator
- 46— **H. E. Klingner, L.D.S., D.D.S.**
1909—1911 Demonstrator Practical Chemistry and Metallurgy
1911—1914 Professor Metallurgy and Instructor in Chemistry
- 47—* **F. E. Risdon, L.D.S., D.D.S., M.B.**
1909—1910 Clinical Instructor and Demonstrator
1916—1920 Professor Anatomy
1916—1918 Chief Demonstrator in Anatomy
1918—1919 Chief Demonstrator in Osteology and Anatomy
1920— Professor Surgery
- 48— **J. A. Slade, L.D.S., D.D.S.**
1909—1911 Clinical Instructor and Demonstrator
- 49— **C. V. Wallace, L.D.S., D.D.S.**
1909—1912 Clinical Instructor and Demonstrator
1912—1913 Examiner and Demonstrator
- 50—* **R. S. Woollatt, L.D.S., D.D.S.**
1910—1913 Clinical Instructor and Demonstrator
1920— Demonstrator Prosthetic Dentistry
- 51— **H. M. Richardson, L.D.S., D.D.S.**
1910—1914 Clinical Instructor and Demonstrator
1917—1918 Clinician Operative Dentistry
- 52— **E. C. Veitch, L.D.S., D.D.S.**
1910—1911 Clinical Instructor and Demonstrator
- 53—* **C. A. Corrigan, L.D.S., D.D.S.**
1910—1916 Clinical Instructor and Demonstrator
1916— Clinician, Orthodontia
- 54— **H. S. Raper, D.Sc., M.B., Ch.B.**
1911—1913 Professor Organic and Physiological Chemistry
- 55—* **A. D. A. Mason, L.D.S., D.D.S.**
1911—1916 Dental Clinician General Hospital
1912—1913 Librarian and Curator Museum
1916—1920 Associate Professor Operative Dentistry
1916—1920 Lecturer Fractures
1920—1922 Professor Operative Dentistry
1922— Professor Clinical Dentistry
- 56—* **C. A. Kennedy, L.D.S., D.D.S.**
1911—1912 Librarian and Curator Museum
1913—1916 Librarian and Curator Museum
1917— Clinician Orthodontia
1917— Librarian and Curator
- 57— **F. L. Badgley, L.D.S., D.D.S.**
1912—1913 Clinical Instructor and Demonstrator
- 58— **J. O. Wilson, L.D.S., D.D.S.**
1912—1913 Clinical Instructor and Demonstrator
1914—1915 Clinical Instructor Orthodontia
- 59— **T. W. Dawson, L.D.S., D.D.S.**
1912—1916 Clinical Instructor and Demonstrator
1916—1917 Clinician Operative Dentistry
- 60—* **N. T. Maclaurin, M.B.**
1912—1915 Assistant in Bacteriology

- 1915—1916 Assistant in Histology
 1916—1917 Assistant in Bacteriology
 1916—1920 Assistant in Histology
 1920— Associate Professor Bacteriology
- 61— **G. A. Wilcox, L.D.S., D.D.S.**
 1913—1914 Instructor Freshman Prosthetic Laboratory
- 62— **H. M. Lancaster, B.A.Sc.**
 1913—1916 Professor Organic and Physiology Chemistry
 1916—1923 Professor Chemistry
- 63—* **Thos. Cowling, B.A., L.D.D.S., D.D.S.**
 1913—1916 Instructor in Chemistry
 1913— Professor Metallurgy
 1916—1923 Associate Professor Chemistry
 1923— Professor Chemistry
- 64— **F. G. Law, L.D.S., D.D.S.**
 1913—1914 Examiner and Demonstrator
- 65— **R. D. Thornton, L.D.D.S., D.D.S.**
 1913—1914 Demonstrator
 1914—1923 Professor Dental Anatomy and Comparative Dental Anatomy
 1916—1917 Clinician Radiography
 1922—1923 Associate Professor Operative Dentistry
- 66— **S. E. Bruce, L.D.S., D.D.S.**
 1913—1914 Demonstrator
- 67—* **G. H. Goram, L.D.S., D.D.S.**
 1913—1916 Clinical Instructor and Demonstrator
 1916—1920 Clinician Operative Dentistry
 1920—1923 Associate Professor Clinical Operative Dentistry
 1923— Associate Professor Clinical Dentistry
- 68— **W. C. Smith, L.D.S., D.D.S.**
 1913—1916 Clinical Instructor and Demonstrator
 1916—1920 Clinician Operative Dentistry
 1920—1923 Associate Professor Clinical Operative Dentistry
 1923—1924 Associate Professor Clinical Dentistry
- 69—† **C. R. Minns, L.D.S., D.D.S.**
 1913—1915 Demonstrator
- 70— **E. R. Ryerson, M.D., C.M.**
 1913—1918 Professor Surgery and Medicine
 1918—1920 Professor Surgery
- 71—* **I. H. Ante, L.D.S., D.D.S.**
 1914—1915 Demonstrator
 1915—1916 In charge Freshman Prosthetic Laboratory
 1916—1919 Demonstrator Senior Laboratory
 1917—1923 Associate Professor Prosthetic Dentistry
 1919—1921 Clinician Prosthetic Dentistry
 1923— Associate Professor Prosthetic Dentistry and Crown and Bridge Work
- 72—* **H. K. Box, L.D.S., D.D.S., Ph.D.**
 1914—1916 Demonstrator Bacteriology
 1915—1916 Lecturer in Pathology
 1916—1919 Associate Professor Pathology
 1918—1919 Demonstrator Histology
 1919—1920 Professor Oral and Dental Pathology
 1920— Professor Dental Pathology and Periodontia
- 73—* **E. A. Grant, L.D.S., D.D.S.**
 1914—1915 Demonstrator
 1919—1921 Demonstrator
 1921— Associate Professor Prosthetic Dentistry
- 74—* **B. R. Gardiner, L.D.S., D.D.S.**
 1914—1915 Demonstrator
 1915—1916 Clinician Exodontia
 1916—1923 Clinician Anæsthesia and Exodontia
 1923— Instructor Anæsthesia and Exodontia
- 75— **L. F. Boyle, L.D.S., D.D.S.**
 1914—1916 Demonstrator
 1916—1919 Clinician
- 76— **Geo. Covey, L.D.S., D.D.S.**
 1914—1917 Demonstrator
- 77—* **J. H. Duff, L.D.S., D.D.S.**
 1914—1915 Demonstrator
 1918—1921 Demonstrator
 1921—1923 Clinician Prosthetic Dentistry
 1923— Instructor Prosthetic Dentistry
- 78— **E. C. Boyle, L.D.S., D.D.S.**
 1915—1916 Fellow
- 79— **E. H. Campbell, L.D.S., D.D.S.**
 1915—1916 Demonstrator
 1919—1922 Demonstrator
- 80—† **R. G. McLaughlin, L.D.S., D.D.S.**
 1915—1916 Lecturer Dental Jurisprudence
 1916—1917 Professor Dental Jurisprudence
 1917—1925 Professor Dental Jurisprudence and Ethics (Nov).
- 81— **W. H. Coon, L.D.S., D.D.S.**
 1915—1920 Demonstrator Prosthetic Dentistry
 1916—1919 Demonstrator Exodontia
- 82— **W. J. M. Dolson, L.D.S., D.D.S.**
 1915—1916 Demonstrator
- 83— **G. W. Grieve, L.D.S., D.D.S.**
 1915—1918 Associate Professor Orthodontia
- 84— **Jos. Priestman, L.D.S., D.D.S.**
 1915 (summer) Demonstrator
 1919—1923 Demonstrator Operative Dentistry

- 85— **H. M. Tovell, M.B.**
1915—1916 Demonstrator Anatomy
- 86— **F. R. Scott, M.B.**
1915—1916 Demonstrator Anatomy
- 87— **C. B. Parker, M.B.**
1915—1916 Demonstrator Anatomy
- 88— **H. W. Baker, M.B.**
1915—1916 Demonstrator Anatomy
- 89— **T. R. Hanley, M.B.**
1915—1916 Demonstrator Anatomy
- 90—* **G. R. Anderson, B.A.Sc., M.A.**
1916—1917 Demonstrator Physics
1917—1918 Associate Professor Physics
1918—1921 Associate Professor Applied Physics
1920—1921 Professor Physics
1921—1923 Professor Applied Physics
1923— Professor Physics
- 91— **J. W. E. Brown, M.B.**
1916—1917 Demonstrator Anatomy
- 92— **C. R. Collard, L.D.S., D.D.S.**
1916—1917 Demonstrator
- 93— **F. G. Garvin, L.D.S., D.D.S.**
1916—1917 Demonstrator
- 94— **E. L. Gausby, L.D.S., D.D.S.**
1916—1917 Clinician Operative Dentistry
- 95— **W. A. Loveridge, L.D.S., D.D.S.**
1916—1918 Demonstrator
- 96— See 178.
- 97—† **R. M. Burgess, L.D.S., D.D.S.**
1916—1917 Demonstrator
- 98—* **L. F. Krueger, L.D.S., D.D.S.**
1916—1923 Clinician Operative Dentistry
1923— Instructor Operative Dentistry
- 99— **W. C. Wickett, L.D.S., D.D.S.**
1916—1917 Clinician Operative Dentistry
- 100—* **F. J. Conboy, L.D.S., D.D.S.**
1917— Professor History of Dentistry
1922—1923 Associate Professor Dental Economics
1923 Professor Dental Economics
- 101—* **H. H. Halloran, L.D.S., D.D.S.**
1917—1918 Demonstrator
1919— Demonstrator Prosthetic Dentistry
- 102— **F. C. Husband, L.D.S., D.D.S.**
1917—1923 Clinician Preventive Dentistry
- 103—* **J. W. Ingram, L.D.S., D.D.S.**
1917—1919 Demonstrator
1919—1920 Clinician, Examining Room
1920—1923 Demonstrator Operative Dentistry
1923— Associate Professor Operative Dentistry
- 104— **H. D. Leuty, L.D.S., D.D.S.**
1917—1918 Demonstrator
- 105— **R. J. M. Montgomery, L.D.S., D.D.S.**
1917—1918 Demonstrator
- 106— **A. C. Pye, L.D.S., D.D.S.**
1917—1921 Demonstrator
1922—1923 Demonstrator Operative Dentistry
- 107— **T. A. Robinson, M.D., C.M.**
1917—1920 Chief Demonstrator Osteology and Anatomy
1920—1923 Professor Anatomy
1923—1924 Professor Osteology and Anatomy
- 108— **P. G. Watson, L.D.S., D.D.S.**
1917—1920 Demonstrator
- 109— **J. W. Armstrong, L.D.S., D.D.S.**
1918—1919 Demonstrator
- 110— **A. B. Babcock, L.D.S., D.D.S.**
1918—1923 Demonstrator Operative Dentistry
- 111—* **G. D. Beierl, L.D.S., D.D.S.**
1918—1921 Demonstrator Dental Anatomy
1922— Demonstrator Operative Dentistry
- 112— **W. L. Chalmers, L.D.S., D.D.S.**
1918—1920 Demonstrator
1920—1921 Clinician General Hospital
- 113—* **F. L. Cole, L.D.S., D.D.S.**
1918—1920 Demonstrator
1920—1921 Demonstrator Dental Anatomy
1921—1923 Demonstrator Prosthetic Dentistry
1923— Instructor Prosthetic Dentistry
- 114— **G. V. Fisk, L.D.S., D.D.S.**
1918—1919 Demonstrator
- 115— **W. C. Leggett, L.D.S., D.D.S.**
1918—1919 Demonstrator
- 116— **J. G. White, L.D.S., D.D.S.**
1918—1920 Demonstrator
- 117— **J. L. Banks**
1919—1921 Demonstrator Modelling
- 118— **H. G. Bean, L.D.S., D.D.S.**
1919—1922 Demonstrator
- 119— **M. H. Blandin, L.D.S., D.D.S.**
1919—1920 Demonstrator

- 120— **E. T. Campbell, L.D.S., D.D.S.**
1919—1920 In charge Senior Laboratory
- 121—* **S. S. Crouch, L.D.S., D.D.S.**
1919—1921 Demonstrator
1921—1922 Demonstrator Prosthetic Dentistry
1922— Demonstrator Operative Dentistry
- 122— **L. D. Drewbrook, L.D.S., D.D.S.**
1919—1921 Demonstrator Histology
1921—1922 Demonstrator Dental Anatomy
1922—1923 Demonstrator Operative Dentistry
- 123— **D. M. Flett, L.D.S., D.D.S.**
1919—1921 Demonstrator Histology
1921—1922 Demonstrator Pathology
- 124—* **R. J. Godfrey, L.D.S., D.D.S.**
1919— Demonstrator Prosthetic Dentistry
- 125— **W. F. Green, B.A.**
1919—1920 Demonstrator Chemical Laboratory
- 126— **H. W. Hoag, L.D.S., D.D.S.**
1919—1923 Demonstrator Prosthetic Dentistry
- 127—* **W. L. Hugill, L.D.S., D.D.S.**
1919—1923 Demonstrator Operative Dentistry
1923— Instructor Operative Dentistry
- 128—* **F. S. Jarman, L.D.S., D.D.S.**
1919—1920 Demonstrator
1921—1923 Clinician Anæsthesia and Exodontia
1923— Instructor Anæsthesia and Exodontia
- 129— **C. W. Jeffreys**
1919—1920 Demonstrator in Art
- 130— **H. B. Kilgour, B.A.**
1919—1920 Lecturer in English
- 131—* **S. M. Richardson, L.D.S., D.D.S.**
1919—1921 Demonstrator Senior Laboratory
1920—1923 Demonstrator Dental Anatomy
1923— Instructor Operative Dentistry
- 132—* **Miss W. C. Riddle, B.A.**
1919— Demonstrator Histology Bacteriology and Pathology
- 133—* **J. M. Sheldon, L.D.S., D.D.S.**
1919—1921 Demonstrator
1921—1923 Demonstrator Operative Dentistry
1923— Instructor Operative Dentistry
- 134— **R. B. Stewart, M.A., M.D.**
1919—1921 Demonstrator Chemistry
1921—1922 Demonstrator Preventive Dentistry
- 135—* **W. G. Trelford, L.D.S., D.D.S.**
1919—1920 Demonstrator
1921—1922 Clinician Operative Dentistry
1922—1923 Clinician Dental Pathology and Periodontia
1923— Instructor Periodontia
- 136— **J. B. Wallace, B.A.**
1919—1922 Lecturer French
- 137— **R. M. Watson, L.D.S., D.D.S.**
1919—1923 Demonstrator Prosthetic Dentistry
- 138— **L. E. Westman, B.A. Sc.**
1919—1922 Lecturer Chemistry
- 139—* **J. W. Beatty, R.C.A.**
1920—1922 Demonstrator in Art
1922— Demonstrator in Drawing
- 140— **A. Brodey, M.A., M.B.**
1920—1925 Demonstrator Physiology
- 141— **W. E. Brown, M.B.**
1920—1922 Demonstrator Osteology and Anatomy
- 142— **G. N. Bramfitt, B.A.**
1920—1923 Lecturer English
- 143— **C. F. Butt**
1920—1922 Demonstrator Radiography
- 144— **F. W. Clement, M.B.**
1920—1923 Demonstrator Osteology and Anatomy
- 145— **L. R. Davison, L.D.S., D.D.S.**
1920—1922 Demonstrator
1922—1925 Demonstrator Physics
- 146— **H. Harrison, M.D., F.R.C.S. Eng.**
1920—1921 Demonstrator Anatomy
- 147—* **W. T. Holmes, L.D.S., D.D.S.**
1920—1923 Demonstrator Operative Dentistry
1923— Instructor Operative Dentistry
- 148—* **H. W. Hoskin, L.D.S., D.D.S.**
1920—1923 Clinician, Patients' Consultation
1923— Instructor Patients' Consultation
- 149— **W. E. Martin, M.B.**
1920—1923 Demonstrator Osteology and Anatomy
- 150— **G. E. Oldham, L.D.S., D.D.S.**
1920—1923 Demonstrator Dental Anatomy
- 151— **B. M. Ott, L.D.S., D.D.S.**
1920—1923 Demonstrator Dental Anatomy
- 152— **H. S. Palmer**
1920—1924 Assistant in Art
- 153— **J. L. Robinson, M.D., C.M.**
1920—1924 Demonstrator Osteology and Anatomy
- 154—* **H. A. Rose, L.D.S., D.D.S.**
1920— Demonstrator Operative Dentistry

- 155—* **W. G. Switzer, L.D.S., D.D.S.**
1920—1923 Instructor in charge Senior Laboratory
1923— Demonstrator Prosthetic Dentistry and Crown and Bridge
- 156—* **R. R. Walker, L.D.S., D.D.S.**
1920— Demonstrator Prosthetic Dentistry
- 157— **F. W. Ward**
1920—1921 Demonstrator Chemistry
- 158— **R. G. Agnew, L.D.S., D.D.S.**
1921—1923 Demonstrator Histology Bacteriology and Pathology
- 159— **F. Coates**
1921—1922 Demonstrator Modelling
- 160— **F. T. Eldon, B.A.**
1921—1923 Demonstrator Chemistry and Metallurgy
- 161— **E. W. McHenry, B.A.**
1921—1923 Demonstrator Chemistry and Metallurgy and Preventive Dentistry
- 162—* **G. V. Morton, L.D.S., D.D.S.**
1921—1923 Demonstrator Prosthetic Dentistry
1923— Instructor Anæsthesia and Exodontia
- 163—* **E. M. Rigsby**
1921—1922 Demonstrator Shop Technic
1923— Demonstrator Shop Technic
- 164— **W. E. L. Sparks, M.D.**
1921—1923 Demonstrator Osteology and Anatomy
1924—1925 Demonstrator Osteology and Anatomy
- 165—* **Miss Merle Foster, A.O.C.A.**
1922— Demonstrator Modelling
- 166—* **R. M. Box, L.D.S., D.D.S.**
1923—1924 Demonstrator Dental Pathology
- 167—* **Andrew Hunter, M.A., B.Sc., M.B., F.R.S.C.**
1923— Professor Biological Chemistry
- 168—* **Oskar Klotz, M.D.**
1923— Lecturer on Tumours of the Mouth
- 169— **A. Bruce Macallum, B.A., M.D., Ph.D.**
1923—1924 Instructor Chemistry
- 170—* **E. J. Pratt, M.A., B.D., Ph.D.**
1923— Lecturer English
- 171—* **J. C. Watt, M.A., M.D.**
1923— Professor Osteology and Anatomy
- 172—* **W. J. T. Wright, B.A. Sc.**
1923— Demonstrator Physics
- 173—* **M. A. Cox, M.B.**
1924— Demonstrator Osteology and Anatomy
- 174—* **W. W. Holmes, M.B.**
1924— Demonstrator Osteology and Anatomy
- 175— **C. S. McDougall, M.B.**
1924—1925 Demonstrator Osteology and Anatomy
- 176—* **A. E. Montgomery, M.B.**
1924— Demonstrator Osteology and Anatomy
- 177—* **H. G. Robb, L.D.S., D.D.S.**
1924— Instructor Anæsthesia and Exodontia.
- 178— **Should be Number 96, omitted**
R. F. Taylor, M.B.
1916—1917 Demonstrator Anatomy

Eastern Ontario Dental Association

REPORT OF ADDRESS OF DR. W. J. BELL, DEPUTY MINISTER OF HEALTH FOR ONTARIO

Dr. W. J. Bell, Deputy Minister of Health for Ontario, in addressing the convention spoke without notes, and so it is impossible to give his address verbatim. He expressed his great delight at being able to be present at the Annual Convention of the Eastern Ontario Dental Association, and to express to those in attendance the good wishes of the Department of Health of Ontario towards the dental profession.

He traced the development of modern dentistry as a branch of the art of healing. He endeavored to show that there was no distinct line of demarcation between dentistry, and the other lines of the healing art, as applied to the human. That the line of demarcation between what we call "medicine" and the profession we recognize as "dentistry" is an artificial line only, and that dentistry is simply a specialized branch of the healing

art in the same class somewhat as surgery or pediatrics, or ear, nose and throat; and he expressed the hope and the expectation that in course of time the artificial line between the two professions of medicine and dentistry would be eliminated.

Dr. Bell dealt particularly with the subject of prophylaxis in dentistry and showed how the dental profession were practicing preventive dentistry and public health, but that it had only recently commenced to receive public recognition, as public health.

He further went on to speak of the recent formation of the Dental Branch of the Provincial Department of Health, and spoke of the interest taken by the Minister, Dr. Forbes Godfrey, particularly, and of the attitude generally of the Government towards the dental profession, saying that the Government as a whole, and the Department of Health as a particular branch of the Government extended open arms to officially and publicly welcome the dental profession, on its entry into the Health Department. He said, "We regard dentistry as one of the major activities of the Department and for that reason that work is placed under the control of a full-time Director, selected by the Minister with the expressed approval of the dental profession." And, referring to the Director of Dental Services, said that the work that Dr. Conboy had already initiated had more than justified that appointment. Dr. Bell concluded by extending to the members of the Eastern Ontario Dental Association the good wishes of the Minister and the Department of Health, and expressed his appreciation of having been invited to attend.



SOCIETIES

New York University Establishes New Half Million Dollar College of Dentistry

With the acquisition of a College of Dentistry, New York University has added the second school, of a value approximately one-half million dollars, to its eleven other schools and colleges within the last month. The first gift to be announced was that of \$500,000 for the Guggenheim School of Aeronautics, founded by Daniel Guggenheim.

The College of Dentistry was officially established by the Council of New York University at its last meeting, according to an announcement yesterday from Chancellor Elmer Ellsworth Brown. The new school will be known as the College of Dentistry of New York University.

As part of the plan for establishing a complete course in dentistry and oral hygiene, New York University acquired the property of the New York College of Dentistry. It consists of two six-storey buildings at 201-213 East 23rd Street with a value of at least \$400,000, entirely free from debt, according to Dr. Thomas Darlington, well-known New York physician, who has been treasurer of the institution for almost ten years.

Six hundred students were enrolled in the courses of the College of Dentistry last year and ninety were granted the degree of Doctor of Dental Surgery at this year's Commencement.

Since 1917 when a complete four-year course in dentistry was inaugurated, all the equipment of the school has been renewed and classrooms and laboratories fitted with the most modern devices for the practice of the profession, Dr. Darlington said. The New York College of Dentistry was the third oldest institution of its kind in the United States. After a large public service of more than half a century, it has within the last few years been making such strides in the improvement of its equipment and standards as to have rendered it a conspicuous example of the new tendency toward the improvement of dental education.

The laboratories and other facilities of New York University and Bellevue Hospital Medical College will greatly augment the opportunities for research in dentistry and oral surgery, according to Dr. Holmes C. Jackson, assistant dean of the Medical College. Medical classes in the Dental college will be under the direct supervision of the heads of departments of those subjects in the Medical College, Dr. Jackson said, and the teaching of the medical sciences will conform closely to that given in the medical college.

This co-operation between the medical and dental colleges is in line with ideal conditions desired by every college of dentistry, Dr. Jackson pointed out, and is at present available in only a few educational institutions in the United States. The equipment of the College of Dentistry includes a valuable museum and a library of several thousand volumes on dental and allied subjects which are available for both graduates and undergraduates. During the last year the faculty numbered sixty-five.

The Ontario Dental Association

TO THE MEMBERS OF THE ONTARIO DENTAL PROFESSION

Our committee has worked hard to try and arrange the best programme that can be procured for our Ontario Convention in May and we sincerely believe that we have a wonderful list of papers and clinics. We as a committee have tried to select papers and clinics suitable to the needs of the dentist in general practice, and a look at the list will surely show that we have secured a goodly number of such. As you will see our list includes Amalgam Fillings, Orthodontia, Full Denture Construction, X-Ray Interpretation, The Treatment of Children's Teeth, Protecting the Pulp, Crown and Bridge Work, Periodontitis, Gold Inlays, and Local Anaesthesia. Now this is a great list to select from one or more branches you will want to brush up on, and as every paper and clinic is to be given by an outstanding specialist we know we will be well repaid to attend this convention. To the man in general practise it is well worth while to attend the convention just to check up on your work. If you find you are doing your work in the newest and best way by comparing with the man giving the paper you will feel better satisfied, and if you find you can learn something of use to you when you go back home, it will be well worth the few days away from your work.

Then besides the pleasure of meeting the old gang again, it is worth the trip alone. And don't forget our noon hour luncheon together, class reunion, the reception at the College, also the dinner dance.

You need the rest from work, and we need you to make our convention a success and the best yet.

J. C. DEVITT,
President.

Report of the Secretary-Treasurer Canadian Dental Association

The work of the Secretary for the last two years has not been very heavy, due to the following reasons: 1—No particular occasion arose during this period which called for special action by the Association. 2—Owing to my residing in Toronto, and the meeting being held in Vancouver, I was entirely relieved of the heavy duties connected with planning and organizing for the Convention.

I would like at this time to express my thanks to Dr. W. J. Bruce and his local committees for the cheerful and thorough way they have carried these tasks through to a successful conclusion.

Routine correspondence was attended to as rapidly as time would permit, and, if any of this appears to have been unduly delayed, I hereby offer apologies. It was not so much due to lack of interest in the work as to the fact that being under the necessity of making a living, the more stringent financial conditions of the last two years demanded much more attention to one's private affairs. Considerable work has been done in connection with the Canadian Dental Hygiene Council, the Canadian

Dental Research Foundation and the Oral Hygiene Committee, but as separate reports will be given you from these organizations, it need not be dwelt on here.

I am entirely in accord with the President's suggestions regarding reorganization of the Association. This matter has been discussed with officers of several of the Provincial Associations, everyone of whom expressed themselves as favorable to such a plan. I hope that this matter will be thoroughly discussed by the Executive and some definite conclusions arrived at. I feel that a necessary factor to the success of such a plan is the appointment of a permanent secretary, who will be able to devote considerable time to the duties of the office. Suitable remuneration should be provided. Failing this, I believe the secretary should be a resident of the place where the next meeting is to be held.

A financial statement covering the period from the close of the last Convention to the opening of this one is submitted herewith:

FINANCIAL STATEMENT FROM MAY, 1922, TO AUG. 4, 1924.

Receipts:

May 19, 1922—Balance on hand	\$ 534.69	
January 16, 1925—Balance from Joint Convention Committee 1922	496.29	
July, 1922, to July 1, 1924—Bank Interest	47.85	
		\$1,078.83

Disbursements:

Robt. Simpson Co., decorating booth for Oral Hygiene Committee at 1922 Convention	\$ 16.00	
Office Equipment—desk, chair and filing cabinet	75.00	
Office expenses—typewriter maintenance and supplies	14.47	
Postage and Telegrams	19.48	
Stenographic Assistance	55.00	
Printing and Stationery	77.14	
Advance to British Columbia 1924 Convention Committee for preliminary expenses	500.00	
Balance on Hand	321.74	
		\$1,078.83

Respectfully submitted,
EDMUND A. GRANT.

STATEMENT OF RECEIPTS AND DISBURSEMENTS

Vancouver, B.C.

January 29, 1925.

The Canadian Dental Association,

Gentlemen—We have made an examination of the Cash Receipts and Expenses paid by Dr. W. J. Lea, your Treasurer for the meeting held in this city, August 4th to 9th, 1924, and now submit herewith a Statement of Receipts and Disbursements for that meeting.

We have verified the Bank Account, as shown by the Bank Statement with the Cash Receipts.

We are of the opinion that the accounts, as shown by the Statement of Receipts and Disbursements of your Treasurer, are in order according to the information given us, and as shown by the books as at even date.

Yours truly,

J. S. BRICKER, D.D.S.
A. E. WARK, D.D.S.

RECEIPTS

Cheque—Edmund A. Grant	\$ 500.00	
		\$ 500.00

Income from Exhibitors:

The Wilkinson Co.	\$ 20.00
C. H. Phillips Chemical Co.	24.00
The L. D. Caulk Co.	22.50
The Dentist's Supply Co.	40.00
Horlick's Malted Milk Co.	40.00
F. W. Hancox	20.00
The L. D. Caulk Co.	48.00
The Dental Company of Canada	48.00
Dr. Harry P. Garrison	20.00
Ash-Temple Co.	111.50
Williams Gold Refining Co.	24.00
The Pepsodent Co.	62.50
Benjamin Dunn	24.00
Cameron Surgical Specialty Co.	24.00
B. C. Dental Supply Co.	40.00
Richardson Dental Laboratory	8.00
The Heidbrink Co.	24.00
Columbus Dental Manufacturing Co.	24.00
Hugo Freidman	24.00

648.50

Income from Registrations:

153 Registrations, at \$25.00 each	\$3,825.00	
29 Registrations, at \$10.00 each	290.00	
		4,115.00

Miscellaneous:

Exchange	\$.42	
Credit Balance from Golf Tournament	14.75	
Refund—Ash-Temple Co.	9.98	
		25.15
		<u>\$5,288.65</u>

DISBURSEMENTS**Clinics and Convention Sundries:**

Ash-Temple Co.	\$ 24.85	
Telephone (W. K. Sproule)	11.10	
W. J. Bruce (Express charge)	9.00	
Frank A. Williams	400.00	
Aubrey C. Martin	100.00	
C. J. Stansbery	150.00	
O. T. Dean	150.00	
Frank Hergert	100.00	
J. E. Argue	100.00	
George H. Hewitt	27.00	
Frank P. Smith	52.50	
W. J. Bruce (Express charge)	6.60	
Rose, Cowan & Latta	486.16	
George A. Wood	22.90	
Merchants' Cartage	42.00	
Turnbull Brothers	17.04	
J. W. Gehrke	14.18	
Frank P. Smith	54.15	
W. A. Brown	4.47	
G. A. Pollard	23.22	
Ash-Temple Co.	9.71	
J. W. Gehrke	5.10	
James Craig	75.00	
T. W. Snipes	50.00	
O. T. Dean	50.00	
Mrs. Gleneek	25.00	
W. S. Watson	20.00	
Oscar A. Olsen	2.00	
Vancouver Towel Service	10.00	
Vancouver General Hospital	15.00	
Ash-Temple Co.	9.98	
		<u>\$2,066.96</u>

Entertainment:

W. J. Lea	35.00	
Lawrence Crawford	84.00	
Union Steamship Company	638.00	
Percy W. Lee	115.00	
Hotel Vancouver	570.00	
J. W. Gehrke	4.46	
Canyon View Hotel	78.00	
Mrs. J. M. Jones	15.75	
Wigwam Inn	117.00	
Helen F. Snipes	10.25	
Dr. Bessie Brighthouse	1.00	
Shaughnessy Golf Club	15.00	
R. L. Coldwell	123.75	
Dr. Bessie Brighthouse	5.00	
Commercial Photo Co.	30.00	
Mrs. R. L. Coldwell	4.90	
		<u>\$1,847.11</u>

Publicity:

George H. Hewitt	17.63	
Rose, Cowan & Latta	145.43	
MacBeth Spedding, Limited	28.35	
Ash-Temple Co.	96.46	
J. W. Gehrke	19.45	
C. P. R. Telegraph	21.96	
Ethel E. Morrison	1.75	
J. W. Gehrke	13.45	
C. P. R. Telegraph	6.18	
P. H. VanderVoort	3.76	
W. J. Bruce	35.00	
Rose, Cowan & Latta	7.09	
J. S. Bricker	2.00	
T. W. Snipes	4.00	
		<u>\$ 402.51</u>

Secretary's Expense Account:

Dr. E. A. Grant	\$ 250.00	
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Treasurer's Account:

W. J. Lea (Sundries)	10.00	
Exchange	3.85	

263.85

\$4,580.43

Balance on Hand:

Royal Bank of Canada	\$ 708.22	708.22
		<u>\$5,288.65</u>

CANADIAN DENTAL ASSOCIATION
FINANCIAL STATEMENT COVERING PERIOD FROM AUGUST 5, 1924
TO JULY 7, 1925

Receipts:

Aug. 5, 1924—Balance on hand	\$ 321.74	
Feb. 7, 1925—Cheque from Dr. W. J. Lea, balance from 1924		
Convention in Vancouver (\$708.22 less exchange \$1.75) ..	706.47	
Aug. 5, 1924 to July 7, 1925—Bank Interest	15.55	
		<u>\$1,043.76</u>

Disbursements:

Postage, telegrams and express charges	\$ 15.00	
Stationery and Typing supplies	13.55	
Stenographic Assistance	10.00	
Balance forwarded to Dr. J. Stanley Bagnall, Halifax	1,005.21	
		<u>1,043.76</u>
		<u>\$1,043.76</u>

EDMUND A. GRANT,
Secretary-Treasurer.

AUDITORS' REPORT

The Canadian Dental Association,

Gentlemen—We have examined the books of the Treasurer, Dr. E. A. Grant, for the period May, 1922, to July, 1925, and find the receipts and disbursements, as set out in the above statement, to be correct.

(Signed) T. W. DAWSON
W. E. WILLMOTT
Auditors.

REGISTRATIONS FROM CANADA

Allen, E. F., Vancouver, B.C.	Goodman, S. G., Gravelburg, Sask.
Alward, R. W., Prince George, B.C.	Goodwin, R. S., Vancouver, B.C.
Aunger, A. E., Stettler, Alta.	Graham, J. R., Summerland, B.C.
Bailey, N. S., Portage la Prairie, Man.	Grant, E. A., Toronto, Ont.
Bagnall, N. C., Vancouver, B.C.	Gunning, W. N., Victoria, B.C.
Banford, H. C., New Westminster, B.C.	Guy, T. N., Vancouver, B.C.
Barker, H. P., Vulcan, Alta.	Hacking, W. J., New Westminster, B.C.
Benson, J. L., Winnipeg, Man.	Hall, Lewis, Victoria, B.C.
Bezeau, F. G. J., Vancouver, B.C.	Hall, R. W., Vancouver, B.C.
Bier, E. R., Winnipeg, Man.	Hanna, R. S., Vancouver, B.C.
Bedingfield, H. E., High River, Alta.	Haynes, W. T., Hardisty, Alta.
Black, J. E., Vancouver, B.C.	Heard, T., Vancouver, B.C.
Bradley, S. W., Ottawa, Ont.	Hill, J. F., Vancouver, B.C.
Bricker, J. S., Vancouver, B.C.	Hoar, H. B., Blairmore, Alta.
Brighthouse, A., Vancouver, B.C.	Hoare, H. G., Wetaskiwin, Alta.
Brown, J. S., Vernon, B.C.	Hougen, O. E., Mission, B.C.
Brown, H. M., Fort Saskatchewan, Alta.	Johnson, A. L., Moose Jaw, Sask.
Bruce, W. J., Vancouver, B.C.	Jones, E. C., New Westminster, B.C.
Bryce, W. W., Victoria, B.C.	Jones, J. M., Vancouver, B.C.
Bulyea, H. E., Edmonton, Alta.	Kennedy, C. A., Toronto, Ont.
Bush, G. F., Winnipeg, Man.	Kenney, A. A. B., Maple Creek, Alta.
Campbell, E. C., Saskatoon, Sask.	Kerr, D. E., Duncan, B.C.
Carmichael, J. S., Edmonton, Alta.	King, F. E., Vancouver, B.C.
Carter, H. R., Nakusp, B.C.	Krueger, L. T., Toronto, Ont.
Clark, H., Toronto, Ont.	Large, H. L., Medicine Hat, Alta.
Clay, J. W., Calgary, Alta.	Lea, W. J., Vancouver, B.C.
Conn, R. W., Vancouver, B.C.	Leslie, O. H., Vancouver, B.C.
Cook, C. E., Port Alberni, B.C.	Louden, W. H., Vancouver, B.C.
Coldwell, R. L., Vancouver, B.C.	Loveridge, W. A., Vancouver, B.C.
Corrigan, C. A., Toronto, Ont.	Macauley, B. H., Calgary, Alta.
Corrigan, C. W., Vernon, B.C.	MacBeth, G. A., Vancouver, B.C.
Courtice, C. J., Vancouver, B.C.	McDonald, T. F., Medicine Hat, Alta.
Cox, E. L., Vancouver, B.C.	McIntyre, L., Edmonton, Alta.
Davies, W. V., Chilliwack, B.C.	McIntyre, M. A., Edmonton, Alta.
Davison, R. L., Penticton, B.C.	MacKay, A. W., Vancouver, B.C.
Devitt, J. C., Bowmanville, Ont.	McKenzie, A. S., Toronto, Ont.
Dent, C. S., Vernon, B.C.	McKeon, R. E., Victoria, B.C.
Dixon, J. M., Calgary, Alta.	MacLaughlan, Lorne, Ottawa, Ont.
Doherty, R. P., Grande Prairie, Alta.	MacLaurin, L. D., Edmonton, Alta.
Doyle, E. M., Calgary, Alta.	McLean, R. G., Toronto, Ont.
Dyer, A. F., Vancouver, B.C.	McMurray, H. S., Vancouver, B.C.
Faskin, L. J. D., Regina, Sask.	McPherson, J., Edmonton, Alta.
Fergie, W. A., Cranbrook, B.C.	McRae, A. A., Vancouver, B.C.
Fletcher, J. D. L., Vancouver, B.C.	McSween, P. D., New Westminster, B.C.
Ford, C. V. S., Vancouver, B.C.	Magee, J. M., St. John, N.B.
Fraser, W., Victoria, B.C.	Mabee, A. H., Oshawa, Ont.
French, C. M., Duncan, B.C.	Malony, J. F., Winnipeg, Man.
Gallagher, W. M., Vancouver, B.C.	Marion, D., Edmonton, Alta.
Garosche, A. J., Victoria, B.C.	Marlatt, S. P. H., Powell River, B.C.
Garvin, M. H., Winnipeg, Man.	Mason, A. D. A., Toronto, Ont.
Gatewood, C. H., Vancouver, B.C.	Massey, D. W., Vancouver, B.C.
Gerry, J. B., Kamloops, B.C.	Mathison, R., Kelowna, B.C.
Gibson, M. J., Lethbridge, Alta.	Merkeley, H. J., Winnipeg, Man.
Gilchrist, H. A., Vancouver, B.C.	Miles, F. B., Cranbrook, B.C.
Gilroy, L. E., Vancouver, B.C.	Moore, F. G., Lacombe, Alta.

Moore, F. H., Vancouver, B.C.
 Moore, J. H., Medicine Hat, Alta.
 Muir, T. J., Trail, B.C.
 Morris, S. A., Jasper Park, Alta.
 Oberg, A. T., Vancouver, B.C.
 Pallen, B. L., Vancouver, B.C.
 Peden, F. R., Vancouver, B.C.
 Piper, W. A., Calgary, Alta.
 Pollard, G. A., Vancouver, B.C.
 Pollock, F., Vancouver, B.C.
 Quinn, F. N., Abbotsford, B.C.
 Roberts, J. C., Edmonton, Alta.
 Rice, L. C., Kimberley, B.C.
 Ryan, F. W., Halifax, N.S.
 Shepherd, J. W. N., Kelowna, B.C.
 Shortrood, R. D., Vancouver, B.C.
 Smith, C. J., New Westminster, B.C.
 Smith, F. P., New Westminster, B.C.
 Smith, Percy, Toronto, Ont.
 Smith, W. D., Grand Forks, B.C.
 Snipes, T. W., Vancouver, B.C.
 Spencer, H., Vancouver, B.C.

Sproule, W. K., Vancouver, B.C.
 Steed, W. B., Nelson, B.C.
 Stewart, J. S., Lethbridge, Alta.
 Stokes, W. R., Ocean Falls, Alta.
 Switzer, F. K., Regina, Sask.
 Thomas, A. J., Victoria, B.C.
 Thomas, H. E., Vancouver, B.C.
 Thomas, P. C., Vancouver, B.C.
 Thomson, G. K., Halifax, N.S.
 Thompson, W. G., Hamilton, Ont.
 Thornton, A. W., Montreal, Que.
 VanderVoort, P. H., Vancouver, B.C.
 Walley, G. A. C., Nelson, B.C.
 Wark, A. E., Vancouver, B.C.
 Watson, G. C., Vancouver, B.C.
 Watson, W. S., Vancouver, B.C.
 Wescott, V. D., Vancouver, B.C.
 Wilson, R. H., Vancouver, B.C.
 Wood, H., Vancouver, B.C.
 Wright, W. F., Vancouver, B.C.
 Zimmerman, J., Toronto, Ont.

REGISTRATIONS FROM UNITED STATES

Beasley, G. D., Spokane, Wash.
 Bell, Robert, Spokane, Wash.
 Brown, Chas. C., Seattle, Wash.
 Covey, N. G., Seattle, Wash.
 Fallenreck, W. M., Spokane, Wash.
 Fixott, H. C., Portland, Oregon.
 Hagen, W. H., Spokane, Wash.
 Higgins, W. G., Spokane, Wash.
 Holter, H. L., Spokane, Wash.
 Horly, G. H., Seattle, Wash.
 Keenan, B. J., Spokane, Wash.
 Keenan, H. D., Butte, Montana.
 MacKenzie, C. M., Pasco, Wash.
 McKeown, A. G., Bellingham, Wash.
 Magill, C., Seattle, Wash.

Major, J. A., Yakima, Wash.
 Manchester, L. B., Wenatchee, Wash.
 Marshall, J. R.
 Michicka, H., Portland, Oregon.
 Peters, G. W., Spokane, Wash.
 Pfeiffer, L. L., Spokane, Wash.
 Schlund, J. B., Spokane, Wash.
 Shanks, J. E. R., Spokane, Wash.
 Shearer, W. C., Portland, Oregon.
 Sherwood, L. W., Spokane, Wash.
 Thiege, B., Spokane, Wash.
 Williams, H. H.
 Williams, J. H., Spokane, Wash.
 Woolson, A. H., Spokane, Wash.

See Canada First

The Canadian Dental Association will be held in Halifax, N.S. beginning 16-19 August.

A rail and water tour of Eastern Canada has been planned, and the following itinerary with rates and schedule will be the Official Route. On the return trip there are a number of routes marked with rates and these should be chosen before starting. The excursion will leave Toronto by the steamer TORONTO of the Canada Steamship lines for Kingston, the 1000 Islands and the rapids to Montreal.

SCHEDULE OF TRIP—GOING JOURNEY

Lv. Toronto	3.00 P.M.	Sunday,	Aug. 8th
Ar. Montreal	5.45 P.M.	Monday	Aug. 9th
Lv. Montreal	6.35 P.M.	Monday	Aug. 9th
Ar. Saguenay	9.30 P.M.	Tuesday	Aug. 10th
Lv. Saguenay	6.30 A.M.	Wednesday,	Aug. 11th
Ar. Quebec	7.30 P.M.	Wednesday,	Aug. 11th
Lv. Quebec	12.05 A.M.	Friday	Aug. 13th
Ar. Halifax	10.50 P.M.	Friday	Aug. 13th

(Standard Time)

RATES

1. Toronto to Halifax and return, steamer from Toronto to the Saguenay and return to Quebec, rail to Halifax, thence rail to Digby, steamer to St. John, rail to Quebec (via Moncton or Fredericton), steamer to Montreal, rail to Brockville, and steamer to Toronto.

\$114.90 including meals and berth on Can. S.S. Lines.

\$13.10, cost of lower berth, Quebec to Halifax and return.

2. Same as route 1 on going journey, and on the return as far as St. John. Thence rail direct to Montreal, rail to Brockville and steamer to Toronto.

\$117.45, including meals and berth on Can. S.S. Lines.

\$6.55 for lower berth Quebec to Halifax.

\$4.80 for lower berth St. John to Montreal.

3. Same as route 1 on going journey, thence rail to Yarmouth, steamer to Boston, steamer to New York, steamer to Albany, rail to Montreal, rail to Brockville, and steamer to Toronto.

\$126.02 including meals and berth on Can. S.S. Lines.

\$6.55 for lower berth Quebec to Halifax.

\$3.00 to \$6.00 for rooms Yarmouth to Boston.



In the Upper Town, Quebec City, P.Q.

\$1.75 to \$10.00 for rooms Boston to New York.

\$3.75 for lower berth Albany to Montreal.

4. Same as route 1 on going journey, thence rail to Yarmouth, steamer to Boston, steamer to New York, and rail to Toronto.

\$114.42, including meals and berth on Can. S.S. Lines.

\$6.55 for lower berth Quebec to Halifax.

\$3.00 to \$6.00 for room Yarmouth to Boston.

\$1.75 to \$10.00 for room Boston to New York.

\$4.50 for lower berth to New York to Toronto.

5. Same as route 1 on going journey, thence rail to Yarmouth, steamer to Boston, rail to New York, and rail direct to Toronto.

\$115.32, including meals and berth on Can. S.S. Lines.

\$6.55 for lower berth Quebec to Halifax.

\$3.00 to \$6.00 for room Yarmouth to Boston.

\$4.50 lower berth New York to Toronto.

6. Same as route 1 on going journey, thence rail to Yarmouth, steamer to Boston, rail to Philadelphia and direct to Toronto.

\$119.25, including meals and berth on Canada S.S. Lines.

\$6.55 lower berth to Halifax.

\$3.00 to \$6.00 for room Yarmouth to Boston.

\$4.50 lower berth Philadelphia to Toronto.

A group of dentists on an excursion of this kind will be able to become better acquainted and enjoy the pleasure of congenial company. To visit the home of self-government, for it was in Halifax in the year 1758 was convened the first representative assembly to govern in the British Empire overseas.

A motor trip through the land of Evangeline and the Annapolis Valley from Halifax will be both interesting and educational. Any further information may be had from

C. ANGUS KENNEDY,
86 Bloor St. W., Toronto.

Ottawa Dental Society

The Dental Study Club, sponsored by the Ottawa Dental Society, held, during the week commencing April 12th, a course conducted by Rudolph L. Hanau, of Buffalo, which proved to be a unique and unparalleled success, not only in the interest manifested but also in the adaptability to its practical application by the general practitioner.

Over forty per cent. of the combined total of the Ottawa Dental Society and Study Club supporters available *attended* Mr. Hanau's course. It would have reached a greater per cent. had not sickness during that week prevented previously enrolled members from attending. Conditions beyond their control prevented other contemplated members from participating in the course.

This remarkably high attendance percentage is of still greater interest and importance when it is considered that 82% of the practising Ottawa dentists take, or have taken, an active interest in the meetings of the Dental Society or Study Club during the past five years. 71.5% of the total Ottawa dentists supported the Society in 1925-26.

We are justly proud of our high percentage and doubt if there are many professional societies or study clubs which can record so favorably under similar or even comparative conditions.

Mr. Hanau's course was a brilliant success, theoretically and clinically, and although the general practitioner might at first expect that the technique would be too difficult, nevertheless, it was first explained so simply, and then afterwards so clearly and repeatedly demonstrated, that it was "brought home" to each and every member of the class.

One full upper and lower denture case was carried through, and practically completed during the week's class, as well as over twenty correction cases.

DENTAL DATA OF OTTAWA

Total number of dentists listed	87
Deducting two (2) non-practising leaving	85
Number attending various dental society meetings in 1925-26.....	62
Number supporting dental society alone at various times in past five yrs.	70
Number supporting the dental society and study club at various times in past five years	71
71.5% of <i>total</i> Ottawa dentists supported the society meeting in 1925-26.	
73% of the <i>practising</i> Ottawa dentists supported the society meetings in 1925-26.	
81.6% of <i>total</i> Ottawa dentists supported the dental society meetings at various times in last five years.	
82.3% of the <i>practising</i> Ottawa dentists supported the study club and dental society meetings at various times in last five years.	
Study Club's Hanau Course—31 members (2 lab. men, 29 dentists).	
Number of full course dentists—23.	
Number of partial course dentists—6.	
33.3% of the <i>total</i> Ottawa dentists attended the Study Club's course.	
34.1% of the <i>practising</i> Ottawa dentists attended the Study Club's course.	
40.8% of the combined total dental society and study club supporters available attended the Study Club's Hanau Course.	
In what percentage do you share in this report?	
Let your co-operation next year surpass all previous efforts and may your attendance and support produce a still more successful record.	

L. E. MacLACHLAN,

Sec'y-Treas., Ottawa Dental Society.

Eastern Ontario Dental Association

The Forty-Ninth Annual Convention of the Eastern Ontario Dental Association will be held at the Algonquin Hotel, Stanley Island, Cornwall, Wednesday, Thursday and Friday, June 23, 24 and 25.

An excellent programme is being prepared.

The following gentlemen have consented to submit papers:

1. Dr. C. Alvin Snell, Toronto,
"Periodontia for the General Practitioner."
2. Dr. A. E. Webster, Toronto,
"Focal Infections."
3. Dr. D. C. W. Coupland, Ottawa,
"Exodontia."

One or more papers on live topics are being arranged and will be announced later.

Keep the dates open and prepare to make this a real holiday.

Bring the ladies.

Golf, tennis, fishing, dancing. Orchestra in the evenings.

Full programme will follow later.

A. A. SMITH, President,
Cornwall, Ont.

S. G. McCAUGHEY, Secretary,
384 Maclaren St., Ottawa, Ont.

F. A. Stevenson, D.M.D., F.A.C.D., Honored

To honor Dr. F. Arnold Stevenson, who has the distinction of being past president and founder of the Canadian Dental Association, the Montreal Dental Club met last evening in the Windsor Hotel. Dr. Charles Morison, a former student of the venerable dentist, made Dr. Stevenson the recipient of a silver tray on behalf of the club.

The gift bears the following inscription: "Presented to Dr. F. Arnold Stevenson, D.M.D., F.A.C.D., by the Montreal Dental Club as a token of esteem and affection, and in appreciation of his service, through many years, to this city, his profession and his club, April, 1926."

To thus show high regard for Dr. Stevenson was but fitting, said Dr. Morison who referred to the guest as a former pupil of Dr. W. G. Beers, of Montreal, and as a graduate of Harvard University which, in 1888 had conferred upon him the degree of D.M.D. Dr. Stevenson, he further said, is a member of the Provincial Board of Dental Examiners, and for many years, was one of the teaching staff of McGill University.

Another tribute to Dr. Stevenson was expressed last evening, when, on motion of Dr. D. J. Berwick, he was made a life member of Montreal Dental Club. Thirty-two years ago, Dr. Berwick was a student associated with Dr. Stevenson.

Honorary Dinner

JUNE 9, 1926, 6 P.M.

In appreciation of his contribution and inspiration to the Dental Profession, the W. D. Miller Club of Cleveland, on its tenth anniversary, will give a dinner in honor of Weston A. Price, D.D., D.D.S., M.S., S.M.S., F.A.C.D.

Speaker: Chas. H. Mayo, M.D., M.A., LL.D., F.A.C.S., F.R.C.S.

The dinner will be held during the meeting of the Northern Ohio Dental Association guests and ladies are invited. \$3.00 per plate.

Make reservations, accompanied by check, with Dr. S. F. M. Hirsch, 4900 Euclid Bldg., Cleveland, Ohio.

Officers of the Montreal Dental Club

As it was the annual meeting, officers of the club were elected, and are as follows: President, Dr. A. M. Jenks; vice-president, Dr. D. P. Mowry; secretary-treasurer, Dr. W. C. Bushell; committee, Dr. F. H. A. Baxter, Dr. Campbell Morris, Dr. Earl Laurin, Dr. Johnston, W. Abraham and Dr. Paul H. Silver.

Report of the Staff Meeting of the Faculty of Dentistry, Toronto

A meeting of the teaching staff was held in Hart House on Tuesday evening, March 2nd, which took the form of a dinner at 6.15, and an address thereafter by Prof. Peter Sandiford, M.Sc., Ph.D., Professor of Educational Psychology in the College of Education.

The following members of the staff were present: W. B. Amy, F. J. Conboy, C. A. Corrigan, W. E. Cummer, E. A. Grant, R. J. Godfrey, H. H. Halloran, H. A. Hoskin, G. G. Hume, J. W. Ingram, F. B. Kenrick, C. E. Pearson, E. W. Paul, S. M. Richardson, C. C. Rous, E. S. Ryerson, W. Seccombe, W. G. Switzer, N. B. Taylor, A. S. Thomson, W. G. Trelford, A. E. Webster, W. E. Willmott, and as guests, Dr. Sandiford and Doctors F. A. Brockford, Harvard University; Buffing, University of Buffalo; H. V. Cottrell, Ohio State University; W. C. Dort, Harvard University; Komara, University of Pittsburgh; A. L'Archeveque, University of Montreal; D. I. K. Lowry, McGill University; Melcher, University of Buffalo; W. M. Randall, University of Louisville; L. R. Scholes, University of Sydney, Australia; R. L. Smith, Harvard University; Wright, University of Pittsburgh.

Doctors Scholes and Randall conveyed the greetings of the guests to the staff.

The meeting then adjourned to the lecture room, where Prof. Sandiford gave an interesting and thought provoking account of an educational survey he had carried out for the province of British Columbia.

Following the address the meeting was thrown open for questions, and quite a general discussion on the whole problem followed.

After a vote of thanks to Prof. Sandiford the meeting adjourned.

COLIN C. ROUS, Secretary.

Many years ago it was necessary to show every municipality how bad their children's teeth were to induce them to inaugurate dental care of the children. It is important to have records of dental work done if these records will lead to any improvement, but if they are to be filed away and never again seen by the eye of man there is a waste of money. Every month dental organizations must spend hours, yes days, of time compiling records of the number of teeth extracted or filled which will never again see the light of day. These numbers mean nothing to anyone. If the chief officers use them as a guide to the services rendered they are in the words of school children just *crazy*.

No published articles on general health and hygiene that come under our notice are so uniformly reasonable and good as those of Dr. Copeland in the Toronto "Daily Star."

Editorial

EDITOR:

A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.

ASSOCIATE EDITORS:

QUEBEC—Eudore Debeau, L.D.S., D.D.S., 396 St. Denis Street, Montreal; A. W. Thornton, D.D.S., L.D.S., Edmonton.

ALBERTA—Leslie McIntyre, D.D.S., L.D.S., Edmonton.

NEW BRUNSWICK—Jas. M. Magee, L.D.S., D.D.S., St. John.

SASKATCHEWAN—W. D. Cowan, L.D.S., Regina.

PRINCE EDWARD ISLAND—J. S. Bagnall, D.D.S., L.D.S., Charlottetown.

MANITOBA—M. H. Garvin, D.D.S., L.D.S., Winnipeg.

BRITISH COLUMBIA—E. H. Hetherington, D.D.S., L.D.S., Victoria.

ONTARIO—S. Stewart Crouch, D.D.S.

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TORONTO, MAY, 1926

No. 5

New Ideas in Dental Legislation

During the discussions of the dental act before the Alberta legislature a few weeks ago the dentists pointed out to the legislature that Canadian dentists who entered practice in Alberta by virtue of having a Dominion Dental Council certificate were not allowed to advertise in an unprofessional way or they would lose their original enabling certificate. On the other hand dentists who entered practice in the province through the licensing examinations (who were either foreigners or holders of foreign certificates) if allowed to advertise as was intended by a bill then before the house would establish two kinds of dentists in the province which in itself would be bad enough but for a legislature to ask for advertising dentists whose chief aim is to deceive the public is surely a retrograde action.

When this dilemma was seen then the legislature proposed a Censoring Board for all professions, which would govern, guide, direct and otherwise control all professional relations with the public. Before there was time for this to be digested it was withdrawn.

During these discussions, Walter Scott, LL.D., the Government's legal advisor said that he had spent days looking up what constitutional authority the Dominion Dental Council had but could find none. This fact might have some influence in allowing unprofessional advertising.

Advertising and the Dental Board's Powers

The 1926 session of the Alberta Legislature finished on Thursday, April 8th, and the members of our Farmers' Government have hied themselves back to their spring work. In the annals of Alberta Dentistry this will live long as a most memorable epoch in its history. A short time ago we reported a struggle the Alberta Dental Board had with an illegal practitioner named Wm. Lees, who was fined three times for illegal practice. Instead of discouraging William these slight obstacles merely stimulated him to greater activity in his efforts to ignore the ancient saying "that there is no Royal Road to learning". Viewing this as not being up to date at all, William broke into the front ranks of the profession without diploma or training and went to work. Threats were of no use. Fines were mere flea bites and on his third sentence he applied for an appeal to the Privy Council. At this opportune time the Naden case, similar in its legal bearings, was refused a hearing by the Privy Council so Lee's attorney withdrew the application. This would-be dentist, then canvassed the city and succeeded in getting a largely signed petition with which he boldly approached the Minister of Health, Hon. Geo. Hoadly, with the request that his plea receive some consideration. The first intimation that the Alberta Dental Board received that unusual proceedings were going on came in the form of an already prepared amendment to the Dental Act, reading as follows:

C. C. 42. Nothing in this Act shall prevent any person from taking the impression of gums and making or fitting plates and false teeth, if such person has, prior to the first day of March, 1926, been employed for that purpose by a member of the Dental Association, or passes such examination in the fitting and manufacture of false teeth as may be prescribed by the Senate of the University of Alberta."

The profession had received no warning, and had not been consulted previous to the drafting of this unique amendment with such ruinous possibility. Anyone who had ever worked for a dentist was concerned and all at the request of an already convicted law-breaker.

A hurried emergency Board meeting was called at which an alternative proposal of Hon. Hoadley's, i.e., that the Dental Profession submit a minimum scale of fees for insertion in our Act as an offset to the suggested amendment, was presented. Being unable to make any scale as requested, and being unwilling to degrade the profession the Board rejected the proposal and cleared for action. The profession was circularized, and never did any Board receive such support as the Alberta Dental Board got from its men. When the Dentists faced Lees on the floor of the Legislature, the ground had been so well covered, and daylight had been so let into the whole affair that it blew up. Local dentists placing the situation before their home members of parliament had done the trick. Lees was not vanquished yet. Finding a dentist properly registered but lacking cash, conscience, and ethics, willing to go in with him, they struck up a bargain. This however, didn't go. The Board gave this man seven days to get back into proper practice or face a charge in court.

Finding checkmate in introducing amendment 42, an election pending in 1926, and resolved that something had to be done to our Act to show rural constituents, our Farmers' Government searched for a way out. Sec.

28 forbade advertising. The elimination of this section looked like allowing cheap dentistry to be heralded far and wide in the rural districts so the dentists were informed that this section was to be eliminated. Once again the committee had to go to the legislature but this time the steam roller was applied. Sec. 28 was deleted from the Act and now cheap jacks can peddle their dental wares commercially. A good point was scored in this connection when the legislators were shown that half our registered men were forbidden to advertise through their connection with the D. D. C. while the other half, mostly foreign graduates would have this special privilege to themselves. Promise of a speedy remedying of this, through allowing the Board special disciplining powers by Order in Council to deal with anything misleading appearing in print may yet work out to our advantage.

The profession was not without friends. In fact it had many in the legislature foremost amongst whom stood the Hon. H. Greenfield. Others gave splendid support but the steam roller was too heavy.

Contact with the legislators brought out interesting viewpoints and one is forced to concede that their attitude is based on reason. The farmer members represent constituencies through which travelling dentists have wandered leaving anything but conservative reparative work as they journeyed. Again, questions asked committee members showed that the legislators could not get over the apparent inconsistency of dentists requesting the eliminating of advertising as a source of rascality when the dental association was not doing a thing to tackle this rascality. They seemed determined they were going to allow complete liberty of advertising, create more power for the Dental Board to handle misrepresentation, request the Board to clean its own House, and if it were unwilling the Legislature would do it themselves. We can assure you a great sigh of relief went up from Alberta dentists when the announcement appeared stating that this 1926 session had closed.

L. M.

Extraction of First Permanent Molars

If the deciduous teeth are in place and will hold the jaws in normal separation and the second molars have not yet erupted and two lower first molars and one upper first molar must be extracted, then remove all four or if two lower first molars are to be lost remove all four but if two uppers are to be lost do not extract the lowers. If the two molars on the same side must be extracted, do not extract the 1st molars on the opposite side, but if a molar on the lower left side must be lost and the one on the upper right side, extract all four. If the only teeth in the mouth keeping the bite open are first molars retain them until the bicuspid or the second molars come into normal position, then determine whether to extract or not.

With such treatment second molars will come forward and align themselves beside the bicuspid without tipping and there will be no increase of the overbite of the uppers.

Notes

Dr. Mabel Hillins has recently located in Calgary.

Dr. F. J. Netherton has registered in Alberta and opened an office in Delia.

Dr. Barton says that the evening meal should be a light one in meats.

Dr. McCrostie of Red Deer has sold out and is leaving for the coast, May 1st.

Dr. F. E. Dodds has purchased Dr. McCrostie's practice in Red Deer and takes it over soon.

Dr. F. E. Warrenner, of Winnipeg, addressed the Electricians' Club on the subject of Dental history.

Patients who expect to get as good service from dentures as from natural teeth are sure to be disappointed.

The Dentists of Sarnia have offered to carry on a dental clinic at the collegiate for two years free of charge.

The property of the Royal College of Dental Surgeons at 240 College St., has been formally transferred to the University of Toronto.

Dr. and Mrs. Lloyd Jones of Niagara Falls, Ontario, entertained the dentists of the city in honor of Dr. Conboy who was addressing the Rotary Club.

The public school Board of Ottawa is unwilling to hand over the conduct of the dental clinics and the nursing staff to the Civic Board of Health.

Drs. Fuller, Smyth, Milne, Barnes, Kennedy and Moore, London, Ont., acted as pallbearers at the funeral of the late Dr. Wilkey, who died April 1st, 1926.

We are indebted to Dr. Devitt, president of the Ontario Dental Association for a history of the National Association of Dental Faculties published 1893. Also a copy of the Dominion Dental Journal, dated October, 1889.

The attention given by dentists to children's teeth through their mothers, the schools, and the various other organizations ensures a generation which at least blame no one but themselves for their dental troubles—(Calgary Herald).

Dr. Cook of Lethbridge has moved up to Lloydminster.

Dr. S. H. Sands formerly of Taber, Alta., but recently returned from four years active practice in Australia reports that Alberta is plenty good enough for him. He is located in Westlock now.

OBITUARY

Dr. J. R. Lalonde

The death occurred this morning at 5047 Park avenue, of Dr. J. R. Lalonde, aged 54, one of Montreal's well-known dental surgeons.

His father was the first mayor of Ste. Cuneonde, and the deceased was sent to school at an early age at the Archbishop's Academy, progressing later to St. Mary's College and the High School at Ogdensburg, N. Y. He completed his professional studies at the University of Montreal, from which he graduated in 1895. He was actively connected with a number of charitable organizations.

He is survived by his widow and two children: Roger Beaudry and Suzanne. There are also three sisters, Mrs. Lifroy Fortin, and Mrs. Jean Desjardins, and Mrs. J. R. Hamelin; and two brothers, Rev. Fr. Louis Marie (Trappist), and Marcel Lalonde.

Dr. Peter Brown was First Dentistry Dean of McGill

After a long, painful illness, borne with wonderful fortitude and resignation, Dr. Peter Brown, dentist, died at Montreal on Saturday night, March 29. Dr. Brown was a broadminded, kindly man, esteemed by a large circle of acquaintances and affectionately regarded by his intimate friends.

The death occurred at his home, 17 Royal avenue. He was first Dean of the Faculty of Dentistry of McGill University, and one of the pioneer dentists of this city. Dr. Brown had been in poor health for over 10 years, but was compelled to give up his practice only a year ago.

He was born in Montreal in 1860, and received his education at St. Ann's School and the New York Dental College. In 1884 he graduated from old Bishop's College and became one of the teaching staff and finally Dean of the College, which later was absorbed by McGill.

Dr. Brown was a past-president of the College of Dental Surgeons of the Province of Quebec, and a year ago was the recipient of a formal presentation from his professional associates. He was awarded an honorary degree from the Dental College of McGill in 1914. He is survived by his widow, one son James, four daughters and a sister, all residents of Montreal.

Dr. John Dickson

There passed away in the city recently another of Brandon's worthy citizens in the person of Dr. John Dickson, at the age of 77 years, and his demise was learned today with mingled feelings among his contemporaries. Dr. Dickson was born in Scotland and came to Canada when three years old. For about 30 years he resided in Hamilton, Ont., then came to Manitoba and ran a grocery store in Chater for a few years. He then took up dentistry, graduating from the University of Minnesota in 1896, after which he practised his profession in Brandon until a few years ago, when his health failed him.

In 1893 he married Miss Anna Louise Harrison. Dr. Dickson was a Presbyterian, a good churchman, and a man who evinced great interest in and was actively identified with the affairs of the city. He particularly favored the work of the general hospital, and was a member of the board of directors of that institution from 1892 until 1905. He also was a Mason, being a pastmaster of both the Brandon lodges.

Deceased is survived by his widow, in New York, and two sons and two daughters. They are: Dr. John Dickson, of Winnipeg; Dr. Stanley Dickson, of this city; Mrs. Irving Cross (Mary), Hoosick Falls, New York, and Isabel Dickson of New York. A Masonic funeral was accorded the late Dr. Dickson.

SPECIAL THIS MONTH — New Burs \$7 — **ROUND** — **INV. CONE** — **WHEEL**—size 3/0, 20c per dozen. **HIGHEST** prices paid for scraps, etc. **WE RECUT** your used burs extra sharp at 25c per dozen. Sheun Co., 602 Oakwood Blvd., Chicago, Ill., Established 1906.

FOR SALE—Dental practice in large Manitoba town. Well appointed office; up-to-date equipment; good reasons for selling. Price very reasonable. Fine opportunity for good steady man. Box 35, Dental Journal, 73 Richmond West, Toronto.

FOR SALE VERY CHEAP—1 Fountain Cuspidor (A. C. Clark, Chicago) with white opal bowls. This is in perfect condition. It is not marred in any way. New price about \$100.00 will sell for \$40.00. 1 Dentscope Spot-Light. This has an extra long bracket and is in good shape. It cost \$40.00 will sell for \$5.00 Box 37 Dental Journal, 73 Richmond St. W., Toronto.

DENTAL PRACTICE AND EQUIPMENT FOR SALE in St. Mary's, Ont., June 30th. See N. D. Lang, St. Mary's, at once. Box 36, Dominion Dental Journal, 73 Richmond W., Toronto.

FOR SALE—Established practice, Calgary, Alta. Fully modern equipment in every detail, including N2O & O machine and X-Ray. Furnishings the best. Located most modern office building in the West. very reasonable. Retiring. Inquire Ash-Temple branches. Reference H. P. Temple, Toronto.

FOR SALE—Dental Practice; house and office in central location, near Bloor and Yonge. Apply Chas. G. Scott, 20 Charles East.

International Dental Congress

The Seventh International Dental Congress, which convenes in Philadelphia, U. S. A., August 23rd to 27th, 1926, will, beside being a world conclave of the profession, be notable for the exposition it will have of dentistry.

The Congress is to be held in the city where the Sesqui-Centennial International Exposition, an exhibition of the world's progress in the arts, sciences, education, society and commerce, is under way. This exposition will be of vast interest to the fifteen to twenty thousand dentists from all over the world who will attend the Congress.

The Dental Congress will also have a large exposition of its own, relating to the science, craft and history of dentistry. This dental exhibition will be held mainly in buildings which are part of the Commercial Museum, where is located the convention hall in which the Dental Congress will hold its session, or in buildings nearby.

The dental exposition will be divided into five large and important divisions; a dental scientific exhibit; a dental historical exhibit; a dental public health exhibit; a Government exhibit and a commercial exhibit. Each of these exhibits is being gathered from all over the world.

The historical and scientific exhibits will, it is predicted, be the most exhaustive displays illustrative of the advancement of dentistry that have ever been held. There is being gathered together in America and Europe the most comprehensive collection possible.

The Historical and Scientific Exhibits will comprise objects of interest in every department of dentistry and will illustrate the advance of dental science from its incipency.

Philadelphia is itself rich in historical association with dentistry. Here practised LeMaire, the French surgeon and dentist, who is considered the first preceptor of dentistry in America; Gardette, a pupil of LeMaire; Hudson, who was instrumental in organizing dentistry as a profession; Koecker, early dental practitioner and author of works on dental practice. Here lived Charles Wilson Peale, famous early American painter, who in his latter years turned his attention to experiments which interested others in the development of porcelain teeth.

Military dental surgery will be an important part of the exhibition. It will be the profession's first opportunity to view results of the war experiences of the dentists who served in field and camp. Dental science in Europe will contribute largely to this section of the exhibition. The government of the United States will have large exhibits illustrating dental work in its Army and Navy and in the U. S. Public Health Service.

The U. S. Army Dental Corps will contribute a very complete exhibit of maxillo-facial surgery, the result of the war experience of the Army dental surgeons.

There will be photographs, radiographs, casts, etc., to show in detail the final results of actual cases of gunshot wounds and the dental rehabilitation of wounded soldiers.

The work of the Army Dental School and the Army Dental Corps will be fully shown. The reports of the research activities of these branches of the government service will be shown and illustrated.

The Navy Dental Corps will make a similar display, showing complete battleship equipment of dental infirmary, oral hygiene dispensary and clinic for enlisted men on sea service.

The Surgeon General of the U. S. Public Health Service has also authorized the exhibit of the oral hygiene and dental preventative work among school children, working people and others.

An important display will be from the Mayo Foundation, of Rochester, Minnesota. The famous surgeons, the Mayo brothers, have accorded sanction to Dr. Boyd Gardner, in charge of the dental branch of the Foundation, to display a comprehensive exhibit of the work in oral hygiene and disease prevention through dentistry.

The Denier Dental Institute, of Kansas City, Missouri, will present under the direction of Dr. Russell Haden, an exhibit showing results of the study of periapical infections.

American and foreign dental schools will give displays of students under training and will set up model classrooms, clinics and laboratories.

The Commercial Museum, in which will be held the sessions of the Congress and the dental exposition, is located in a part of the city of Philadelphia which is within ten minutes tramcar ride of the city's heart and directly adjoining the campus of the University of Pennsylvania. The Thomas W. Evans Museum and Dental Institute and School of Dentistry of the University of Pennsylvania are among the buildings nearby. The University student dormitories and student fraternity houses will be placed at the disposal of the visitors to the Congress for living purposes.

Modern hotels, of large capacity, apartment houses, and a vast residential district where rooming accommodations of all types can be obtained are located adjacent to the convention building.

The Commercial Museum is in a different part of the city from that in which is located the Sesqui-Centennial Exposition, which is in an area in the southern part of the city; also about ten minutes ride from the center of the city. The exposition grounds and the center of the city are easily accessible by fast surface and subway transit cars from the convention hall.

Many noted dentists are coming from abroad to attend the Congress. Parties are coming by specially chartered steamers from Rotterdam and Hamburg, bringing European dentists. Among the distinguished ones will be the celebrated Dr. B. Gottlieb, of Vienna. Word has been received that Professor Alexander Limburg, of the University of Leningrad, Russia, has received permission of the Soviet government to attend. He is professor of Odontology in the State Institute of Dental Science.

Another noted delegate will be Dr. Floristán Aguilar, of Madrid, Spain, distinguished not only in dental science, but also a leading figure in Spanish affairs, being dentist to the court and an intimate friend of the Spanish King. Professor William Gilmour, of the University of Liverpool, occupant of the only endowed chair of dentistry in the world, is another delegate.

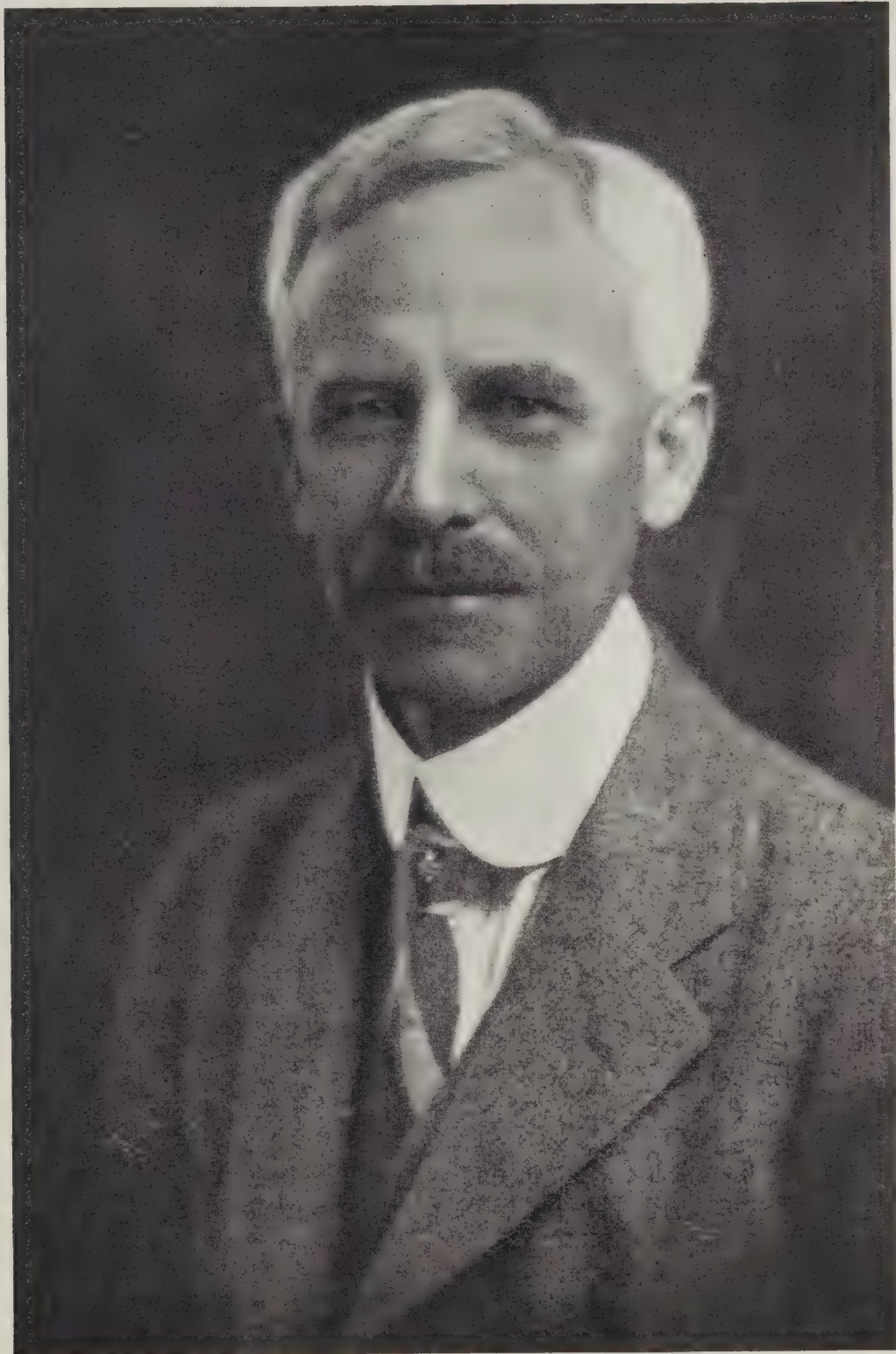
Dr. Pedro J. Valenzuela, of the Dental School of the University of Concepcion, Chile, and one of the foremost dental scientists and teachers in South America, is coming as the official delegate of the Chilean government. Drs. Coelho and Souza, noted Brazilian dentists, will also be among a large and distinguished delegation of South Americans.

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J. C. DEVITT, D.D.S., L.D.S.
Bowmanville, Ontario. President of the Ontario Dental Association, 1926.

ORIGINAL COMMUNICATIONS

59th Annual Ontario Dental Convention

J. C. DEVITT, D.D.S., L.D.S., BOWMANVILLE, ONT.

This, the 59th Annual Ontario Dental Convention, marks the end of another year of Progress in a number of Dental Departments.

Some of the happenings in past years have startled us and in some cases stampeded us it may be, but it would seem that we have gained much knowledge and arrived at sane ideas from our experience. The days of ruthless extractions have passed, for we know that in many cases the teeth that were condemned in the past, can be treated and made safe and useful for many years to come.

With our improved X-Ray interpretation and general health diagnosis, we are better able to judge when to extract and when not to do so. Nature meant teeth to be where they are and Nature is a wonderful help to us with our improved scientific methods of root filling.

In my humble estimation, the crying need in dentistry today is "The Care of Children's Teeth". Many of us have been side stepping this work, partly because of the difficulties we encounter, and partly because of the work required. Dr. Seccombe and Dr. McLean have the right idea in advocating Preventive Dentistry by the balanced food method, but the trouble lies in the fact that we get most of the cases too late.

I believe for the present time, the solution is, compulsory examination of each child from three years old up, by a competent and qualified person. I believe that it would be possible to eliminate 90% of all treatment and abscessed conditions, if we could have our little patients regularly for examination and repair. We all know that most of our exposed nerves and abscessed conditions are due to the lack of early enough attention. What a boon to humanity it would be, if our children could be treated early enough to avoid all this trouble. Why not do the work when the cavity is small, avoiding pain to the little patient, and giving the tooth a much better chance to stand up for the years required. Also, how many cases of Orthodontia would be avoided by this early attention. Thousands of temporary teeth would be left in place until the proper time, and many cases of Orthodontia would be avoided as a result. Our Committee has deemed it wise to have two outstanding men give Papers and Clinics on children's work. Also in this respect, the Oral Hygiene Committee has in the past year been doing good work.

The report to be presented by the Oral Hygiene Committee will show a decided advance in connection with the educational work of the Association. The Committee has performed an excellent service and the work includes the preparation of valuable Oral Hygiene material in the form of booklets, films, slides, charts and newspaper articles. These are available to any dentist who will undertake to give a dental health talk. A number of local Oral Hygiene Committees have been organized and arrangements

are being made for the Ontario Dental Health Day on October the 20th, of this year. In connection with this important dental health activity, the Oral Hygiene Committee at the request of the Ontario Department of Health, has consented to arrange for free dental examination and advice for all those who apply for it upon that day. Special school events are being planned by the teachers and nurses, and many service and social welfare clubs are arranging public meetings. We are pleased to know that the Ontario Medical Association, the School Health Section of the Ontario Educational Association, the Canadian Social Hygiene Council and many other educational and health organizations are co-operating with us in this effort to bring to the people a knowledge of the importance of dental health.

I desire on behalf of the Association to publicly express our appreciation of the work accomplished by Dr. Conboy, the Director of Dental Services, and to express to the Minister and Deputy Minister of Health, our sincere thanks for the encouragement and support which they have given to this department. All the various activities of the dental department have been most successful and in the dental inspection of the children, the establishment of public dental health services, and the educational activities, the progress made, has been far beyond the expectation of the most enthusiastic supporter of the work.

Results obtained in Government Hospital where an efficient dental service has been in operation, conclusively prove that even patients suffering from mental diseases can be greatly improved, and sometimes cured by the removal of impacted teeth and dental infection. We are glad to know that the Ontario Government is seriously considering the organization of such a service in our Provincial Institutions. Recent figures published by the Canadian National Committee for Mental Hygiene indicate that in Ontario from November the 1st, 1922, to October the 31st, 1923, there were 2,266 patients admitted and only 869 improved or cured. When you consider that the gross current charges for the year were \$3,072,000, you will realize how important it is that mental diseases should be prevented or cured. We have conclusive evidence to substantiate the claim that modern dental treatment will prove of value in the prevention and treatment of patients suffering from nervous diseases.

Since the last meeting of the Association, the School of Dentistry of the Royal College of Dental Surgeons has become the Faculty of Dentistry of the University of Toronto. We all hold the kindest remembrances for the old school, but feel sure the members of the profession will never regret their action in turning over to the University, the School of Dentistry and its management. For fifty years, the Faculty members, appointed from time to time by the R. C. D. S., labored to raise and maintain the standards of Dental Education in the Province of Ontario, and we are all proud of what has been accomplished. Ontario today, stands second to none in Dental Education.

The arrangement by which one of the Faculty members serves on the Board and three Board Members serve on the Faculty will result in the closest possible co-operation and the maintenance of a spirit of harmony between the teaching and licensing bodies, which is so essential to progress. The many difficult problems incident to the transfer, are being gradually solved, and though a year has not yet passed, the effects of the establishment of a Faculty within the University are in evidence, and we may look forward with confidence to further developments in Dental Education and research within the Province.

Another outstanding event in Dentistry in Ontario this year, is the enactment of the Dentistry Act, 1926, at the last meeting of the Legislature. Numerous changes in the old Act were required, because of the transfer of the School of Dentistry to the University. The new Act contains the following provisions, that are worthy of special mention.

1. The Province is divided into eight electoral districts, in place of seven as heretofore.

2. The annual fee is designated as an annual *Registration Fee*, not exceeding ten dollars, and payable the first of January in each year.

3. Where default in payment of the Annual Fee continues for one month, the license shall lapse and can be renewed only upon payment of arrears with an additional sum to be named, not exceeding Ten Dollars.

4. No person other than a licentiate, shall use any title or description which implies that he practices dentistry in any branch which contains the words "Dentist", "Dentistry", "Dental", or any derivative of any such word, or any letters, signs, or abbreviations, having the like significance.

5. No person other than the College or a University shall carry on any School, College, or Laboratory, or other institution for imparting knowledge in any branch of Dentistry.

6. No registered member of the College shall be liable to any action for negligence or malpractice, by reason of professional services requested or rendered, unless such action is commenced within six months from the date when such professional services terminated.

Your Board of Governors decided it was to the interest of all to have the Convention in the one building, it being a great advantage to be able to park your hat and coat for the day and be able to hear all the papers, see the Clinics, and attend the Luncheons, and see the Exhibition Displays, so we selected the King Edward as the most suitable place.

Dr. Conboy has been appointed Secretary of the Association, and with his well known ability has been a wonderful help to your Board of Governors in arranging the Programme for this, we hope, our best Convention to date. Also, as secretary of each Sub-Committee he has had much work to do, as well as a good share of the work in the "Booster". A suitable honorarium will be given him.

An auditor's system of book-keeping has been installed by the Board, and an audited statement will be sent to each member, or published in the Dental Journal shortly after the Convention.

I wish to thank the members of the Board of Governors and all others who have assisted in any way to help make our Convention attractive and instructive. I also wish to thank the members of the Profession for the great honor given me at your Convention last year, as it is an honor indeed to be President of a Professional Body of such prominence as the Ontario Dental Association.



Orthodontia as a Practice for the Family Dentist

ABRAM HOFFMAN, D.D.S., F.A.C.D., BUFFALO, N. Y.

Read before the Ontario Dental Association, May 17th, 1926.

INTRODUCTORY

Mr. President, Members and Guests:

Allow me to express my appreciation and pleasure for the invitation to present, to this body, a paper upon a subject which almost constitutes a "hobby" with me and I trust that my enthusiasm in the subject will not lead me so far astray as to weary you. I have learned that it is sometimes well to have a convenient stopping point along the way and accordingly have divided my presentation into two parts; the first a paper, the title of which is "Orthodontia as a Practice for the Family Dentist," varying a trifle from the title as announced upon the program,—the second part is an informal lantern talk dealing with "Treatment and Simple Appliances," therefore, you see I have considered my listeners as well as safe-guarding myself.

A Tribute to Orthodontics

In the January 1926 number of the American Dental Journal there was printed an editorial which in no uncertain terms pays a great tribute to dentistry. It perhaps pays a still greater tribute to that branch of dental science known as Orthodontia, because it refers directly to that particular field in dental science. The editorial was penned by a distinguished son of Ontario and we, of the United States, the country of his adoption, join with you in love and admiration of the man—Charles Nelson Johnson.

The wisdom and soundness of Dr. Johnson's judgment has been evidenced upon many occasions in the affairs of the dental world, and the closing sentences of the wonderful tribute referred to offers something for us to think about.

"In the glowing east, we see the many-tinted bow beckoning in the dawning of a better day, when 'all of the children of all of the people' shall be brought under the blessings of this benevolent art, and the cry and despair coming from the hearts of little children shall be banished from the ears of men.

"When the possibilities and significance of Orthodontia are fully recognized by the world, there shall be recorded for dentistry one of the greatest achievements and greatest tributes that have ever fallen to the fortunate lot of any calling."

Does the phrase "when all the children of all of the people shall be brought under the blessing of this benevolent art" mean anything to you? It must, or you would not be here at this time.

Conditions in Ontario

Statistics tell us that there are 621,900 children of school age in the province of Ontario; we are told that probably 70% of human dentures present malocclusions of sufficient severity to warrant orthodontic treatment; or, in other words, there are 435,330 children at this time, in Ontario, who should be under orthodontic treatment. There are twelve orthodontists in

Ontario. If each were to start and dismiss fifty cases, each year, 600 or .0013% of your children would be cared for. Just for argument, let us assume that the 200 dentists of Ontario who are practicing more or less Orthodontia were all limiting their practices to orthodontia and were carrying fifty cases per year, you would still be treating but .0228% of the malocclusions and 425,330 children would still "go begging." This may all seem ludicrous, but it is a fact nevertheless.

Let us be a little more sane in our figures. It has often been stated that but 10% of the people receive dental care. This means that 43,530 should be receiving orthodontic attention annually in Ontario. Are they? No! Probably less than .0013% are.

Again, if each of your 1,837 dentists were to treat, under present conditions of orthodontic practice, an average of ten cases per year, the total would reach something like 18,370 of the 435,330 cases calling for attention. If we again assume the 10% previously referred to, there is still a deficiency of 25,163 and Dr. Johnson's appeal of "all of the children of all of the people" become an idealistic vision which will probably never be realized.

Of course, we all understand that the foregoing figures present conditions which are practically insurmountable; that the nature of orthodontic treatment as now conceived must, from necessity, leave many thousands of the present generation of children to grow up with irregular teeth and to suffer the inevitable consequences later in life. But, such an alibi does not excuse us from doing some deep thinking.

Orthodontia For the Masses a Problem

Orthodontia for the masses is a problem of deep concern to all interested in the welfare and health of our future citizens and it should be one of intense concern to the members of our profession because we have the desire to see dentistry attain a higher plane in the medical art, or better, in health service. The figures presented are an evidence that the surface is barely being scratched and the ratio is not being reduced, partially because there are countless numbers of our professional brothers who are ready to acclaim that the problem is one that cannot be solved. In view of the seriousness of the situation—the appalling number of children in need of this class of service—it becomes our obligation to at least undertake a partial solution of the problem.

One outstanding defect in the present plan of coping with malocclusion is the fairly deeply rooted idea that the family dentist is not qualified to practice orthodontia; if that be so,—why is it so? The answer may be found in the following premises:

- (a) He has not comprehended the opportunity knocking at his door, or
- (b) He may not have been sufficiently impressed during his student days, or
- (c) He may be possessed of the idea that it is a branch of practice for the "specialist" only.

Your essayist will attempt to analyze these premises in the following paragraphs, with the hope that it may eventually lead to "the dawning of a better day." The answers will be considered in an inverse order.

Orthodontia, when practised as a specialty, becomes one of the most fascinating branches of dentistry. Still as such, it calls for a genuine liking for the subject, a willingness to undergo many vicissitudes, much preparation and special study, a broad experience, a high order of technical

skill, a systematized office routine, a special equipment, a relatively long period of treatment, a coping with difficult or unusual conditions and an emolument which "makes a man worth his hire." It has been stated a large proportion of the population is financially unable to pay for the services of the orthodontic specialist. This is probably true, but the conditions just enumerated as applied to a specialty should be obvious.

A Suggested Remedy

As a counterbalance to all of the foregoing, your essayist believes that there is a great future "in the dawning,"—a future which will change the present accepted teaching and practise of orthodontics, and with this change there will come a blessing to countless thousands of children who will receive benefit from the coming generations of dentists who will have been taught *Preventive Orthodontics*.

The conditions which have prevailed in most dental schools relative to the teaching of orthodontics has been of such a nature that the student, when once graduated, promptly forgets all about it and proceeds to engage in those branches of practice that have been more thoroughly impressed upon him. Countless numbers of children pass through his portals each year, ignored as to the seriousness of conditions which should be readily recognized as factors to affect health and appearance in the years to come.

Let us remember, that teachers are charged with the duty of imparting knowledge to the only group of men who, tomorrow, should be qualified to express a valued opinion on how the mouths and teeth of our posterity can best be preserved.

Considering that the teachers of orthodontics are divided as to how the subject should be taught, it is no wonder that the student is not stimulated. If the teacher is confirmed in the belief that the *science* of orthodontics is not for the college student nor for the family dentist, then let us find a teacher with another vision who will impart at least, the *rudiments of the science* or such information as will render a service to the public and to our profession. Your essayist is in favor of the qualified specialist going as far as he likes, but it should not be forgotten that all dentists have an obligation to the parents;—their confidence entitles them to advice upon oral conditions, present and future,—and further, we have a still greater obligation to the children, for they are unable to make decisions for themselves.

There is no excuse for minimizing the importance of treatment, nor is ignorance a sufficient cloak for our indifference. It is inexcusable to delay or ignore this important phase in the care of children's teeth, and if we do so, we are not playing the game fairly. It is equally inexcusable to call upon the commercial laboratory for a diagnosis, or an outline of treatment, or an appliance,—most of the experienced orthodontists will gladly give advice when called upon. The successful diagnosis and outline of treatment demands the visual examination of the living subject, not the casual examination of an inanimate plaster cast.

If the practice of orthodontia occupies the important position in health service which we think it does, and if the results of treatment have such an important bearing upon health, appearance and well-being which we believe it has, then it becomes the duty of the various institutions concerned with higher education to provide adequate facilities in every way for teaching the art. This implies a competent corps of instructors, and a large, well-equipped clinic, operating throughout the entire year for the

benefit of both student and patient, laboratories, technical apparatus, research work, and so on. There is no just reason why this department should not have the same advantages that are offered in the other departments of clinical instruction in our universities or institutions for health service. Compare orthodontic instruction, particularly clinical instruction, with that of either operative or prosthetic dentistry and it is left so far in the rear that it accomplishes little for the student and still less for humanity. The manner in which this subject has been (and still is) taught in most dental schools is deplorable.

It is not intended to advocate the making of specialists in such a course of instruction (except as Graduate Courses, leading to a degree, might be organized) but rather, to serve humanity and thus serve ourselves. Again the counterbalance, *teach Preventive Orthodontics*.

The Opportunity of the Family Dentist

Mayo issued a challenge in his marked statement when he said that the next great step in advance in preventive medicine was in the hands of the dental profession and asked if we would meet it. We accepted his dictum and the reply has been most favorable. The ever increasing number of malocclusions has a direct bearing upon general health and the recognition and elimination of the evident causes presents another challenge to our profession which calls for a combined effort to combat it. If the contributing factors could be strongly enough impressed upon the family dentist, he has the opportunity of rendering a greater orthodontic service in a community than a dozen orthodontic specialists combined. Sounds like a rather extravagant statement, doesn't it? But it can be done!—*Practise Preventive Orthodontia*.

The simplest definition of Orthodontia is that of Angle. It is defined as "that science which has for its object the correction of malocclusion of the teeth." The term "Preventive Orthodontia" is perhaps a trifle ambiguous, because taken in the strictest sense, it would mean the preventing of orthodontic treatment, whereas in reality, the interpretation we wish to put upon it is, to prevent the *necessity for* orthodontic treatment; this to be accomplished by mitigating or caring for the impending malocclusion in its incipency. In this event much of the treatment need not necessitate the use of appliances at all, or at any rate, it will be of a much simplified orthodontic nature.

If we admit of the truth, most of us do not covet "children's dentistry" and therefore we fail in our duty at the very outset. If the deciduous dentures are kept in a relatively normal condition until these precious teeth have served their purpose, the number of malocclusions will be vastly reduced.

The opportunity for the family dentist begins very early and the confidence which is reposed in him is quite akin to that which the family physician enjoys. The advice which may be given the expectant mother with reference to diet as related to calcium metabolism can be given in a manner so as to create a desire for the right foods, such as will build hard, strong teeth for her babe. This supersedes the orthodontists' opportunity by far.

Without entering upon any prolonged discussion of the etiological factors which cause malocclusion it is well for us to remember that they can be readily divided into congenital and acquired causes and we now know that the congenital conditions play a much more important role than we have realized, therefore, we should stress them with our patients.

It should further be remembered that these congenital factors can be very largely controlled, especially those relating to diet, health and hygiene. It is here that the dentist can exercise a wonderful influence and it is just as much within his province to promulgate this information as it is for him to advise treatment for acquired malocclusions or other dental ills.

But few people realize that the pre-natal period has a very important bearing upon the teeth of the child. We know, but the layman does not know, that in this period the crowns of all the deciduous teeth and the permanent ones as well, except the second and third molars, are being definitely formed. The strength, character and vitality of these teeth depend, in a great degree, upon the food the mother eats.

During the first year or two after birth, the diet of the child has much to do with the development of the teeth, bones and muscles concerned with the future dentition. And again their strength and character come through the mother's food, this time in the form of breast milk which provides the very best foundation for the teeth as well as the general health of the infant.

Bone growth depends considerably upon stimulation; stimulation upon function, and the muscular function in the act of breast feeding is by far more important, for the development of the tissues of mastication, the lower third of the face, the whole head (through the sinuses) and thorax, than we have ever realized. Suffice it to say, at this time that the dentist should urge breast feeding as a factor in preventing malocclusion.

Just one more reference to diet as an element in preventing malocclusion,—and that is through the growing period or up to adolescence. During this time the child's system has many severe drains upon metabolism and it is of the utmost importance that he be guided to plenty of the right kinds of food. It is during this age that children develop their likes and dislikes for foods and emphasis should be laid upon the importance of those articles that are rich in the mineral content, and too, those which require thorough mastication. It is during this period that much of the mysterious is taking place with the glands of internal secretion, now recognized as having a bearing upon dentition, and these organs also must receive their activating principles from our food, so there may be a dual or parallel action in certain foods. It is not within the scope of this paper to discuss the question of diet and indeed it is hardly necessary as your own Dr. Seccombe has taught, written and discussed the problems of foods, diet and nutrition with you for some years.

There are numerous other congenital influences which we will but mention in passing, nevertheless, they are important and merit consideration. Included are: Cleft palate; anomalies in number, form and size of the teeth; abnormal labial fraenum; abnormal size of tongue; syphilis; tuberculosis, and so on.

Acquired Causes

The acquired causes should at once be of interest to the family dentist because these conditions are immediately within his domain. These factors have been repeatedly mentioned in our literature and elsewhere, and to some it may seem like a useless repetition, but it remains that operative procedures are practised daily, which will eventually result in malocclusion otherwise possible of prevention. The following causative conditions are some of the common ones and are so "hackneyed" that I mention them with timidity;—but let us picture the results.

Premature Loss of Deciduous Teeth. Generally speaking, the premature loss of one of the six anteriors means a lack of development of the supporting bone with a narrowing, crowding or shortening effect in the bone and in the arc formed by the permanent teeth. The "line of occlusion" which tersely stated is the line of greatest occlusal contact, is foreshortened and the permanent teeth erupt out of harmony with it. Normally the incisal edge of the developing permanent tooth touches the lingual aspect of the root of the deciduous tooth which root is pressed labially causing bone growth throughout its region, to be followed by absorption as the eruptive forces and root growth of the developing tooth progresses. If this relationship is not maintained there will usually be a lack of development and malocclusion.

The premature loss of the maxillary temporary cuspid usually results in the rotation or the labial or lingual inclination of the crown of the permanent lateral, influenced by the contact of the developing cuspid with the laterals' root. The cuspid frequently occupies a prominent labial position, or may not attain its full length becoming the characteristic "buck tooth." This same position of the cuspid may result from approximal caries with the shortening of the mesio-distal diameters of the deciduous molars and their drifting forward because of the forward pressure of the developing first permanent molars. The premature loss of the mandibular deciduous cuspid usually results in a crowding of the incisors, although the cuspids may be in a labial position;—it seems to be a case of "the weaker sister's" yielding, or "a survival of the fittest," if you please.

The early loss of the temporary molars is a serious matter. The probable mesial drifting of the permanent molars and the general lack of development in this portion of the jaws, especially when occurring in the upper, results in a condition which is apt to deceive one in arriving at the classification of the case. The upper first molars being mesial to their normal position, the case is very apt to be placed in Class II. When the permanent molars drift mesially a mistaken treatment may be outlined, the anterior teeth moved forward instead of the molars backward, resulting in complications which seriously mar facial balance. It is not an easy matter to move molars distally and therefore if the temporary molars must be sacrificed prematurely, the necessity for space maintainers should be apparent. Observance of this precaution becomes all the more essential if the sacrifice must be made early because if the second permanent molars are included in the shifting the ratio of complication is greatly increased. We have all seen cuspids and bicuspid impacted, unerupted or occupying lingual or buccal positions due to the condition just mentioned and many of these have been ruthlessly extracted.

Prolonged retention of the deciduous teeth. The most common result under this heading is the deflection of the succeeding tooth to the buccal (labial) or lingual of the predecessor, and when the condition prevails in the anteriors, there is usually a settling together in the arch which necessitates operative measures (expansion) to restore the tooth to the line of occlusion. When deciduous molars are retained very long beyond their normal shedding time, because of their increased width over their successors, there are likely to be spaces between the permanent teeth,—sometimes these spaces may close under the favorable influence of the forces of mastication, otherwise the gum tissues in these locations are prone to injury.

Deciduous teeth retained for any considerable time beyond that of their normal loss should be radiographed so as to determine the procedure necessary for, if allowed to remain, they are quite sure to be lost in early adult life when orthodontic remedies cannot be so readily carried on. The remedial measures for congenitally absent or deeply seated unerupted teeth had better be assigned to one experienced in orthodontics. In these cases not only is expansion of the arches and bone stimulation indicated, but usually the bodily movement of several teeth as well is called for.

Improper restoration of surfaces lost through caries results in a lack of development of the supporting structures because of drifting in the case of the buccal teeth or if in the anterior portion of the arch because of a narrowing induced by muscular pressure of the lips and cheeks. Restorations within approximal or occlusal surfaces should be made to conform with the anatomical conditions and from materials that are durable and not subject to change in form as are the cements and gutta perchas. A "slab-sided," flat, tilting occlusal restoration may cause an opposing tooth to be deflected to say nothing of the possible establishing of an unsightly prognathism or retrusion of the entire mandible.

The first permanent molar is probably the most important tooth in the mouth, and the dentist should always be on the alert to see that these teeth are under favorable influences to guide them to their proper positions. These four teeth determine the relation of the mandible to the maxilla and have a pronounced bearing upon the mesio-distal relationship of all the other erupting teeth during the transitional period; they have a direct bearing upon the vertical development of the anteriors and upon the "bite" and further distribute the forces so as to mould the bones of the lower third of the face. The statement has been made repeatedly that the loss of these teeth causes more malocclusions than any other factor.

The extraction of a single lower first molar results in a tipping forward of the corresponding second and third molars; the incline formed by the occlusal surfaces of these latter teeth may cause the mandible to be unilaterally retruded, the lower anteriors to assume a lingual inclination endangering the linguo-gingival tissues of the maxillary region and a retruded ("rabbit-tooth") position of the upper centrals, the laterals appear to be crowded and protrude labially, or they too may be retruded, in which event the canines are more or less crowded and prominent. The retrusion of these anterior teeth, both upper and lower, is caused by muscular pressure of the lower lip. The effect upon facial balance is noticeable; the mandible appears retruded, the lower lip heavy and curled outward with a deep horizontal groove underneath it. If both lower molars are removed, you have a "double dose" of the above conditions.

If one or both of the upper first molars are prematurely extracted there is apt to be a false lower protrusion, which in reality is a lack of development of the pre-maxillary region, the teeth posterior tilt mesially and the bicuspid drift distally leaving "meat holes," the medium line noticeably shifts to the side of the single extraction and the effect upon facial balance is unpleasant as the concavity underneath the nose and of the upper lip is pronounced.

If all four first molars are extracted, the effect upon the face is very unpleasant. There is a pronounced vertical shortening with a decided concavity to the lips from the base of the nose to the chin, and these persons are doomed to carry the appearance of edentulous mouths of long standing.

The posterior teeth tilt forward and the anteriors distally. The symmetrical extraction of all four first molars was a procedure formerly advocated and within the memory of many of our older practitioners. Happily, the custom has long since been discontinued for it wrecked the efficiency, health and appearance of many a mouth.

Habits and interference with respiration are potent factors in establishing malocclusions. Most habits may be broken if persistently guarded against; these therefore fall within the category of preventive orthodontia. Nervous habits are not always readily recognized nor so easily broken, but they must be sought out if certain malocclusions persistently resist treatment. The principal functional habit is mouthbreathing. This condition presents a vicious cycle, for mouthbreathing causes malocclusion and malocclusion causes mouthbreathing; neither condition can be cured without the removal of the offending factor. Other common habits which must be broken are thumbsucking, use of pacifiers, lip, nail or pencil biting, sleeping positions, resting the chin in the palm of the hand, and so on.

Dr. Frederick B. Noyes in a paper on the "Prevention of Malocclusion" published in the Chicago Dental Society Bulletin of February 27th, 1923, gives some very valuable information regarding habits. He says, in substance, that thumbsucking in young children is probably caused either by hunger or by irritation of the mucous membrane of the nasopharynx, in which event sucking the thumb seems to give a sense of relief by increasing the secretions and moistening the membrane. The hunger sensation may be due to a deficiency in food, either in amount or a lack of balance in its elements. Such contrivances as tying up the chin, strapping the mouth, finger mitts, and so on, are but adjuncts in breaking the habit. The better remedy for combatting is, first, to determine the cause and remove it if possible, then to establish in the subconscious mind, a condition which is repulsive to the favorite habit and which will inhibit it as soon as the indulgence is desired. The practice of coating the finger with aloes, quassia, or other disagreeable substances owes its efficiency to this principle. The difficulty in establishing the inhibiting association varies in different children, but it is possible.

Mouthbreathing is sometimes indulged in as a persistent habit, even after the removal of the hypertrophied tissue in the nasopharynx and the correction of malocclusion. In this event both conditions are apt to recur, whereas, if the habit is broken along with the operative measures, the corrected occlusion will prevail. Many Class II cases have recurred after treatment because of an incomplete appreciation of the above.

I am also indebted to Dr. Noyes for a suggestion regarding the vigorous exercising of the muscles of respiration in establishing normal function. The following remedy is simple and correct in principle. If a boy would close his lips every time he started for school or upon some other errand, and then run as hard as he could, forcing respiration through the nose until he felt as though he would explode, and then stop running, but to continue to breathe through the nose until the respirations had returned to the normal number per minute,—keeping this up every day for several months would bring about a change and he would no longer be a mouth-breather. Incidentally, he would have increased his lung capacity and chest development in such a way as to be an asset to him at the age of fifty.

Much more might be said with reference to breaking up habits in the prevention of malocclusion, but time does not permit.

Simple Aids in Diagnosis

There are several diagnostic aids with which every dentist should be familiar, and as these evidences of impending malocclusions are present in early childhood, we are thus early able to undertake treatment which is the underlying thought of this whole paper,—to practise preventive orthodontia.

Dr. E. A. Bogue blazed a trail with his investigations and writings under the caption "Orthodontia of the Deciduous Teeth," which articles appeared at intervals in the Dental Digest from about 1900 to 1920. His deductions were based largely upon observation rather than scientific investigation, but they are sufficiently accurate to be classed as aids in diagnosis. The more recent work of Dr. F. L. Stanton of New York is based upon extensive investigations in dental engineering and arch pre-determination. The work of Stanton (reported in numerous articles during the past ten years) is invaluable and is destined to be a great gift in the field of preventive orthodontia.

If, in the denture of a child at about five years of age, the teeth stand, contact to contact, in a perfect row, and "like so many pearls upon a string," the condition may be said to constitute a malocclusion and a serious complication in the permanent denture is more than likely to follow. This indicates a lack of development in the supporting bone. At the age just mentioned there should be a definite spacing between all of the deciduous teeth except the molars; this is Nature's provision and she is growing interstitial bone so as to accommodate the wider permanent teeth that are developing. Lack of definite and pronounced spacing indicates the necessity for immediate expansion.

Bogue has been insistent upon the theory that unless the distance from the linguo-gingival prominence of one second deciduous molar across the arch (upper) to its mate is more than 1.10 inches, there is a definite lack of growth and development and that Nature unaided cannot spread the arch and a progressively narrowed condition will prevail, therefore, again, is expansion immediately indicated. He states rather arbitrarily that the distance should be 1.33 to 1.35 inches and supports his contention with argument which time does not permit of our presenting here. He makes the further interesting statement that from 75 per cent. to 95 per cent. of arches are narrowed by systemic weakness and lack of vigor.

Stanton gives us the following interesting diagnostic measurement which is applicable to neutro-occlusion (Class I) cases and, as previously stated, the deduction is based upon the examination of a great many dentures; the measurement between the mesial contacts of temporary cuspids should be equal to the length of the temporary side unit, (being the distance from the mesial of the cuspid to the distal of the second temporary molar). If the anterior measurement is not equal to the side measurement, the difference between the two indicates the amount of expansion required for both upper and lower jaws.

In addition to the above indication for treatment are those which should be visible to even the inexperienced eye:—referring to those conditions known as Classes II and III, which deformities are frequently present in the deciduous dentures and call for early treatment.

It should be obvious that the time for undertaking treatment for the deciduous dentures should be relatively early and before absorption of the roots of the teeth has progressed to any considerable extent, for, if the

absorption has progressed, the anchorage is unstable and the crowns only of the teeth will be moved; meaning that the desired expansion is not gained and that the permanent teeth when they erupt will not occupy the anticipated positions.

Another decided advantage in moving teeth thus early is that the bone is more plastic and cell-proliferation quicker and more permanent. It should be apparent also that all treatment wherein a change of facial contour or balance is desired as in mesiocclusion or distocclusion cases should also be undertaken relatively early.

Classification

Out of the past with its conglomerate plans and terminology for the classification of malocclusion, came the definite method of Angle which, while criticized by some authors, serves as an excellent basis (for the beginner at least) upon which to make a start. Angle uses the upper first permanent molar as the "key to occlusion," accepting its relative constancy in position as sufficient, and from this point judges the relative position of the other teeth (of both arches) and their supporting structures. If the first permanent mandibular molar occludes with the corresponding maxillary molar so that the mesio-buccal cusp of the upper rests in the mesio-buccal groove of the lower, the case, regardless of how "jumbled up" the other teeth may be, is known as Class I. If the mesio-buccal groove of the lower occludes in any degree more than half a cusp to the distal of the upper, it is known as a Class II case, and if the reverse prevails, it is a Class III case. The classification of the case has a direct relationship to the manner of treatment and therefore one should be thoroughly familiar with this step before undertaking the treatment or planning the appliance to be used.

The terminology introduced by Dr. B. E. Lischer of St. Louis is preferred by many Orthodontists to that of Angle. Lischer suggests the following terms: Nutroclusion, Distocclusion and Mesiocclusion for the three great classes of irregularities. There are many advantages in the use of Lischer's terms as they are based upon scientific terminology and immediately indicate the relationship of the mandibular tissue to the maxillary tissue which is not the case when the words "Class one," "two," or "three" are used.

Essentials Preliminary to Treatment

There are several other matters which should be looked upon as prime requisites preliminary to treatment. A definite office routine should be established, and the patients for this class of service should be grouped so that the operator may better concentrate upon the work in hand; systematic examination and treatment record methods instituted; full face and profile photographs should be obtained; full mouth X-rays are of inestimable value; accurate casts are essential (and it does not matter much whether these are from compound or plaster impressions as long as they are well executed); a definite understanding with the parent relative to co-operation, probable duration of the active treatment and retention periods and the approximate cost and mode of payment. There are many other conditions which will present themselves to the thoughtful and conscientious operator which we will not try to include here.

Summary

At this point, let us make a hasty summary of the thoughts presented:

1. Malocclusion is on the increase and its prevalence demands a

change in the concept of the practise of orthodontia,—the opportunity seems to be comprehended in the phrase, "Preventive Orthodontia."

2. The present accepted teaching of the science is not in accord with modern educational standards in the healing arts.

3. Nutrition and metabolism pre-natal, ante-natal and in early childhood must be given more attention.

4. Nature will not and can not, unaided, stimulate narrow, under-developed arches to the necessary proportions for full function, health and balance .

5. Bone responds more readily to stimuli in the young subject, and a better dental organization as well as a better general health and facial harmony is assured as the result of early orthodontic measures.

6. The preservation of a so-called "normal" deciduous denture to its full term is essential. This implies a better appreciation of growth, development and function of the child's dental apparatus and associated structures than many of us display in our daily routine.

In concluding this portion of my presentation and before starting the lantern talk dealing with treatment and simple appliances, your essayist wishes to make a statement which he has repeatedly made: "Any dentist has a legal right to treat malocclusion but he has no moral right to do so without study and preparation." If the family dentist will qualify and practise preventive measures in orthodontia, he will render a wonderful service to our greatest heritage, our children, and still leave for the specialist a vast amount of work which calls for a more thorough preparation and a more advanced technique in orthodontia than falls to the lot of the family dentist; such should be the sphere of the true "specialist"; there will always be cases that get beyond the deciduous denture age and into the transitional or permanent denture stage for him.



Industrial Dental Research—J. A. Marven, Ltd., Dental Clinic, Moncton, N.B.

FRED. E. BURDEN, D.D.S., DIRECTOR DEPARTMENT OF HEALTH,
MONCTON, N. B.

For purposes of report, it was decided that we should place the employees in groups of fifties arranged according to sex, age, weight, height, etc.

The group in Chart I consists of girls employed in one department all doing the same kind of work. They are native-born Canadians. We have found it necessary to have family histories as the parentage together with X-Ray findings assist us greatly in answering the question whether non-vital teeth shall be extracted or treated.

Chart 2 is an abstract from Chart 1. From the figures the following are of particular interest: —(Note: These conditions were found on the first examination.)

Teeth missing:

Superior right	123	30.75%
Superior left	114	28.5 %
Inferior left	80	20 %
Inferior right	82	20.5 %
Total—upper jaw	237	29.62%
lower jaw	162	20.25%
both jaws	399	24.87%

Necrotic roots:

Superior right	10	2.5 %
Superior left	7	1.75%
Inferior right	10	2.5 %
Inferior left	12	3 %
Total—upper jaw	17	2.12%
lower jaw	22	2.75%
both jaws	39	2.44%

Normal Teeth:

Superior right	198	49.57%
Superior left	208	52 %
Inferior right	275	68.75%
Inferior left	268	67 %

It will be noted that there were 2.25% more missing teeth in the upper right than in the upper left, while the number of missing teeth in the lower right was only .5% greater than in the lower left. There were over 9% more missing teeth in the upper than in the lower.

This method of reporting cases in groups seems to give satisfactory results, in that it shows at a glance the exact condition existing and after treatment, the history of the case is again recorded in a similar way. By comparison of the two charts group improvement and individual improvement can be quickly determined.

Large employers of labor are willing to be convinced if they can be shown the advantages of dental service to their employees. These advant-

REPORT No.1 GROUP 1

J A MARVEN LTD DENTAL CLINIC

ages are first to the health of the employee and second the benefits to the organization.

It is obvious that when the employee's health is improved the result will be increased efficiency. It seems unnecessary to state that this is no theory and yet it is surprising that such a statement must be proven by every director of dental services in every industrial clinic. Big business today is fully alive to the importance of good health. The directors are acquainted

NO.	NAME	M	N	O	X	MA	MAO	DA	DAO	?	L	I	GC	PC	G	CB
1	SUPERIOR RIGHT WISDOM	43	5	1	1											
2	" 2 ND MOLAR	6	28	12	1	1	1		1							
3	" 1 ST MOLAR	19	15	7	2	2	3			1			1			
4	" 2 ND BICUSPID	10	33	2	2			1		1			1		1	
5	" 1 ST BICUSPID	14	28	2	2	1	1	2							1	
6	" CUSPID	5	37		1	1		1			1		4			
7	" LATERAL	14	29	1	1	4					1					
8	" CENTRAL	12	23			10		2			1	1		1		
9	" LEFT CENTRAL	11	24			10		2	1				1	1		
10	" LATERAL	12	29			5		3	1							
11	" CUSPID	10	31			4		3					2			
12	" 1 ST BICUSPID	11	25	3	1	3		1	3				3			
13	" 2 ND BICUSPID	11	30	1	2	1	4		1							
14	" 1 ST MOLAR	11	23	9	3		2	1					1			
15	" 2 ND MOLAR	7	39	3	1											
16	" WISDOM	41	7	2												
17	INFERIOR WISDOM	33	11	5	1											
18	" 2 ND MOLAR	14	20	13	2	1										
19	" 1 ST MOLAR	19	17	9	4	1										
20	" 2 ND BICUSPID	12	35	2	1											
21	" 1 ST BICUSPID	3	44		2								1			
22	" CUSPID		50													
23	" LATERAL		50													
24	" CENTRAL	1	48			1										
25	" RIGHT CENTRAL	1	48			1										
26	" LATERAL		49			1										
27	" CUSPID		46		2	1										1
28	" 1 ST BICUSPID	1	42		2					3						2
29	" 2 ND BICUSPID	10	34	1	2		1	1	1							
30	" 1 ST MOLAR	22	11	11	3	1		1	1							
31	" 2 ND MOLAR	9	28	8	3											2
32	" WISDOM	37	10	3												

KEY

M—Missing

N—Normal

O—Occlusal

X—Necrotic

m.a.—Meso—approximal

m.a.o.—meso—approximal—occlusal

?—doubtful vitality

L—Labial

I—Incisal

G.C.—Gold Crown

P.C.—porcelain crown

G—Gingival

C.B.—cervical buckle

with the public health programs but as business men they require practical results in their organizations and on each occasion when the practical results are demonstrated the dental profession takes a step forward toward the goal of its true usefulness.

The cost to the employer of conducting a dental clinic is returned to the employer. This can be readily demonstrated by a study of the above charts. We are not in a position yet to show a statement of cost per patient but we have gone far enough to receive the assurance from our president of his sincere interest and entire satisfaction with both the results of our work and the economy of our clinic.

We realize that our organization, because it manufactures food products (White Lily Brand Biscuits and Cakes), is peculiarly interested in the health of its employees. The organization knows that its products will be in every way more valuable to the consumer when it is known that those products are prepared by clean, healthy employees; and when we add to this the fact that fewer illnesses and less loss of time are directly traceable to our dental treatment, we come to the inevitable conclusion that dental service in industry is well worth while.

In this group of fifty girls we found over 24% of the teeth were missing (including wisdom teeth). This leaves over 75% which could be classified in the following way:—59.31% normal, 2.44% necrotic roots and pulps, 13.38% dental caries. Thus it is shown that 75% of the teeth in this group require dental attention. Here begins the work of our dental clinic, —to save the 75%—by prophylaxis and reparative and operative procedure. Surely when one stops to consider what this means to each of the employees the work is certainly worth while.

This group represents fairly the condition existing in the same number of patients of any practice and indicates clearly the need for dental service among young people.

Percentages:—

Group of fifty girls would make the maximum number of teeth 1,600 where percentages have referenec to one side of mandible or maxillary the maximum number would be 400, and when reference is made to entire mandible or maxillary the maximum number would be 800.



The Conduct of a Dental Practice in England

W. R. PROWSE, D.D.S., L.D.S., ENGLAND

In discussing the conduct and customs of English Dental practice it might be well to start by mentioning something of the Dental Board and registration.

In 1878 an attempt was made to restrict the practice of dentistry to those holding some type of qualification such as Dentistry, Medicine, Pharmacy, etc., and a register was formed. The law was loose and in effect meant that no unqualified person could call themselves Dental Surgeon or Surgeon Dentist. It did not however restrict the practise of dentistry and so failed in its purpose.

In 1921 a new Act was passed requiring all to be registered on a new register and having severe penalties for any practicing who are not so registered. Licentiates and those practicing dentistry with qualifications as mentioned before went on the register ipso facto. Non-qualified practitioners who were members of the Incorporated Dental Society went on by certificate of membership by the society secretary and others had to show that they had earned their living by dentistry for five years prior to the passing of the Act. A registration fee of £5 (\$25) is required yearly for all those not registered before 1921 and if not paid promptly the practitioner is struck off the register. This fee is an arbitrary one set by the Dental Board and may be reduced at their discretion. There are somewhere around 14,000 on the register of which around 4,000 hold some type of qualification. The rest are registered as "Dentist 1921", or "In practice 1878". The latter is in the old register of 1878. A strict law of the Board is that "No person shall use letters or title which he does not in fact possess, and as registered in the register". Thus if a "Dentist 1921" held the degree of D.D.S. from some college not recognized by the Board and not registerable, he would not be allowed to use such title or description.

The Dental Board is composed of members appointed or elected by various agencies, the majority of which are *not* dentists. These men handle registration, discipline, education, etc. The discipline is very severe and any large signs, a mention of type work (gas extraction, etc.), letters to newspapers giving degrees or even an advertisement for something giving "apply Mr. Smith, Dental Surgeon, etc." will bring down the wrath of the Board. The Board have full power to strike a name off the register and the only appeal is to the General Medical Council. A licentiate may not take the matter to a civil court.

In the case of registration of foreign or colonial dentists possessing qualifications from Colleges which have not reciprocity of License with Britain, a special form must be filled out and sent to the Dental Board who place it before the General Medical Council which meet twice a year, on December 1st and June 1st, only. Any application after those dates must remain until the next meeting. In the case of Ontario graduates it appears they register under the Colonial list as follows:

Jones, J. Address L.D.S., R.C.D.S., Ont. 1924, D.D.S. of Toronto, 1924. Dental practitioners in England go by the title of "Mr." and give their title or degree after. In our case it would appear on the plate as:

Mr. J. Jones, L.D.S., R.C.D.S., Ont. Dental Surgeon. Even if a person possesses medical qualifications as well it is not good form for him to use the title "Doctor".

Every practitioner engages in general practise and there are no specialists in any particular branch. Most extractions under general anaesthetic are done by Nitrous Oxide alone. The apparatus consists of a simple stand with two cylinders, a bag and face piece. The bag is filled by turning a valve with the foot. When patient is anaesthetised the face piece is dropped and the anaesthesia is prolonged by a nasal piece. If too deep the nose piece is raised and the patient allowed a few inhalations of air. At Birmingham Dental Hospital this method is used exclusively and they claim very few cases of nausea. Dentists working alone either call in an anaesthetist or in a number of cases put the patient under, drop the face piece and work until the patient shows signs of recovery.

Denture work is done mostly by compound impressions and set up on straight line articulators. Clasps are mostly of the plain half round wire, embedded in the vulcanite, type.

Bridge work does not appear to be popular and in the case of the working class practice, is prohibitive on account of the cost to the patient whose pay is comparatively low. Even in the middle class practice it is usual in the case of two or three tooth restorations to make vulcanite or metal base instead of bridge.

Gold fillings are impossible except in a middle class practice and even then are not popular unless concealed.

The operating room is termed the Surgery and is usually quite a large room, often with carpet or rug, pictures, desk and sofa or chairs instead of the bare type in vogue here with merely the necessities for operating.

Recently there has been great headway in bringing dentistry to all classes. School children in many schools are required to show dental certificates on returning after Christmas and summer vacations. In the convenient schools they are examined by School Dental officers and work done at the clinic or family practitioners.

Many large business houses have clinics or in some cases pay a portion of all of certain types of work done by a private dentist providing he is approved by the company.

Under the Minister of Health is the approved Insurance Society who have what is termed the Dental Panel. A number of Societies such as the Foresters, Oddfellows, Prudential, etc., allow members of a certain age who have been members for a required period, a percentage of dental costs. This percentage varies in different societies and in types of work done. There is a set scale of fees for this work. The patient brings a form to his dentist (free choice of dentist) who fills in the amount of work necessary and reckons the cost according to schedule.





I found this sign in a barber shop on Queen Street, Ottawa, on 28th April, 1926.

I asked the barber for it and its history.

He told me it was not any use now, but that thirty years ago when the lumberjacks arrived in Ottawa in the Spring after their winter spent in the woods eating pork, beans and molasses and smoking tobac francais, that they would pile into a barber's chair for a shave, haircut, shampoo and face massage. Then the teeth cleaning was suggested and the hair "dying" as you see to finish "the job."

The cleaning was done by using an ordinary tooth brush and a little spirits of salts. Result—nice white teeth. Cost: 25c.

C. M. DENT.

The Ontario Dental Association arranged a most successful dinner-dance in the Crystal Ballroom of the King Edward recently for the out-of-town delegates attending the convention. The Toronto dentists and their wives acted as hosts and hostesses at the various tables, which were gay with flowers, balloons and favors. During dinner the orchestra provided music, which was followed by a very interesting program by Miss Ariene Jackson and Mr. Frank Oldfield, after which dancing was enjoyed. The committee in charge of arrangements were: Mrs. W. B. Amy, Mrs. Wallace Seccombe, Mrs. A. E. Webster, Mrs. E. A. Paul, Mrs. F. C. Husband, Mrs. J. C. Bothwell, Mrs. C. A. Kennedy, Mrs. C. E. Brooks, Mrs. W. C. Chalmers, Mrs. C. L. Gausby, Mrs. A. C. Ellis.

SOCIETIES

Faculty of Dentistry

First Year—The following candidates have completed the first year in dentistry, except where subjects appear after the name, in which case they are required to write upon supplemental examinations: S. C. Auckland (Biology), H. E. Armstrong, F. E. Beube, G. A. Blanchard (English, Science and Civilization), E. A. Carr, M. A. Chantler, A. E. Clarke, J. P. Coupland, J. O. Crabbe, M. L. Craig, M. R. Culbert (Physics), R. G. Cummings, F. W. Dewar (Biology, Physics), W. A. Dinniwell (English), J. N. Dore (Chemistry, Physics), J. F. Ellis, W. G. Fraser, H. Gerston, J. B. Gordon-Stewart, O. G. Halldorson (English, Science and Civilization), F. E. Harris, L. A. Hertell (Physics), H. Horwitz (English), C. L. Johnston (Biology, Science and Civilization), H. M. Jolofsky, W. G. Joynt, R. G. Knowles, L. S. Lockatch, W. G. Mahaffy, M. A. Marling, G. A. Morgan, J. E. Moser, E. M. Murphy (Science and Civilization), V. B. O'Reilly (Physics), C. J. Paterson, C. S. Robertson, W. E. Smart, L. H. Smith, H. O. E. Stanley, R. T. Stewart, G. R. Stinson, C. I. Treadwell, D. H. Walden, H. L. Yoerger.

Second Year—The following candidates have completed the second year in Dentistry, except where subjects appear after the name, in which case candidates are required to write upon supplemental examinations: W. R. Aunger, H. E. Barker, C. J. Baxendale, E. W. Black (Anatomy, Chemistry), E. M. Box, E. J. Bramah, A. C. Brown, R. N. Brownlow, G. A. Buchanan, R. R. Butler, J. G. Chalmers, B. Claman, M. V. Cosentino (Histology), J. A. Cummer (Anatomy), R. L. Currie, L. Davis, J. N. Evans, M. C. Finlay, A. F. Fraser, A. A. Fyfe, H. Galsky, W. P. Gruer, F. M. Hall, G. M. Hawtin, G. C. Hind, A. H. Hudson, W. J. S. Jackson, G. N. M. Johnson (Anatomy), G. W. Johnston, M. V. J. Keenan, V. W. Kennedy, G. Kingman, H. R. Konkle, R. S. Langstroth, R. E. Lee, J. W. MacVicar, J. H. Maitland, J. A. Marshall, F. J. Masiello, W. Model (Anatomy, Histology), A. B. Morrow, J. H. Moyle, G. N. Murphy, J. E. O'Brien (Anatomy, Histology), L. C. Perigoe (Anatomy), S. L. Portigal, Miss Marion S. Priest, A. J. Quick (Anatomy), A. H. Reid, F. M. Roulston, F. M. Serena (Anatomy), A. A. Somerville, Miss M. M. Spence, S. C. Stewart, F. J. Storgell, J. M. Warren, L. A. Washington, G. A. Watson, S. K. Wetmore, O. B. Whitman, G. W. Whitaker, M. Zackheim.

Third Year—The following candidates have completed the Third Year in Dentistry, except where subjects appear after the name, in which case candidates are required to write upon supplemental examinations: P. G. Anderson, T. E. Armstrong, H. P. Bishop, J. F. Brook, L. D. Carmichael, H. M. Corlett, H. A. Corman, O. J. Davies (Physiology), M. A. J. Deagle, J. C. Dempster, W. P. Devins, C. A. Findlay, F. A. Flora, R. R. Frier, H. F. Galloway (Chemistry), J. W. Graham, J. A. Grant, J. H. Graves (Applied Chemistry and Metallurgy), N. H. Greenberg (Physiology), J. B. Greer (Applied Chemistry and Metallurgy), G. C. Hare, L. D.

Haselton, D. C. Hay, T. E. Hayhurst (Applied Chemistry and Metallurgy), J. V. Herbert (Applied Chemistry and Metallurgy, Physiology), R. L. Hewitt (Physics), A. W. Irwin, H. A. T. Keenan (Bacteriology), W. L. Lawson, G. C. Layter, A. Leith, J. C. Lindsay (Biochemistry), A. Lipson, J. M. McBrien, H. M. McCaffery (Materia Medica and Pharmacology), J. A. MacDonald, D. A. R. McDougall, E. E. Maynard, F. S. Mills (Bacteriology), L. R. Mitton, H. F. Moffatt (Physiology), R. C. Moore, J. V. O'Shaughnessy, T. W. Richards, H. H. Robb, J. W. Robson, J. M. Roland, W. E. Romph, T. N. Scott (Physiology), A. W. Sheridan, L. R. Slemon, W. G. Snodgrass, R. M. Sparling, S. E. Stacey, A. A. Stewart (Physiology), J. E. Tilson (Physiology), C. E. Toll, W. A. Wolfe.

The following candidates have completed the Fourth Year in Dentistry, except where subjects appear after the name, in which case candidates are required to write upon supplemental examinations: S. R. Adam, M. G. Bond, L. R. Braden (Bacteriology and Pathology), A. F. Brookes, W. D. Bryce, J. Carroll, R. E. Carroll, G. W. Cornell, A. H. Demuth, H. E. Dobbie (Bacteriology and Pathology), J. C. Egan, E. M. Fisher, R. F. Flach, C. H. Garbutt, G. H. Gardner, W. N. Geddes, J. G. Glascott, T. C. Griffith (Operative Dentistry), S. J. Hellen, R. G. Hemmerich, K. W. Hettenhausen, S. W. Holt, G. O. Hutchison, B. Johnson, D. M. Kennedy, O. S. Sproule, B. Keyfetz, F. A. Kohli, C. F. Krieghoff, J. Landau, V. M. Lloyd, H. R. Loucks, J. M. McCaffrey, K. H. McKay, T. E. McLaughlin, R. M. McQueen, V. C. McSloy, Miss H. J. Manchester, A. R. Montgomery, R. H. O'Neill, K. M. Phillips, I. V. G. Polack, W. A. Potter, M. J. Quigley, A. Robinovitch, W. H. Ridge, H. Rivkin, S. Rosen, W. J. Ross, J. I. Schlosberg, A. Singer, G. C. Squire, M. L. Stitt, A. B. Sutherland, G. V. Tario, J. E. A. Trelford, T. A. Watson, J. F. Weatherill, C. C. White, C. H. M. Williams (Bacteriology and Pathology).

Fifth Year Degree of Doctor of Dental Surgery

Mary Lois Adams	Sydney Cross
Wilfred Ernest Addinell	Floyd Jerome Cuttell
Theodore Nelson Belden	Lloyd Arthur Day
William Jeff Xavier Blackburn	James Howard Dougall
Gerald Horace Braden	Murray Lionel Dymont
Eton Craddock Butcher	Leonard James Easter
Leo Carlyle Byron	Thelma Lenore Coleman Edmunds
Egbert William Connell	William McKinley Edmunds
Saul Copeland	Clarence Lloyd Endicott
Flora Hall Cowan	Jack Rutherford Hoag
Charles Feader	Raymond William Hughes
Samuel Freedhoff	Paul Hutzulak
Cecil Fraser Garland	John Reynold Ingledew
Louis Lionel Goldie	Israel Chapman Israelson
John Gourlay	Drew Palmer Jeffries
William Elmer Hainer	Archibald Aaron Kaplan
Roy Melvin Harmer	Edward Lyman Kennedy
Archibald Leonard Hays	Hugh John Kennedy
Charles George Hewitt	

William Whitfield Russell Larmour
 Samuel Lavine
 William Henry Leach
 Charles Oswald Lennox
 Robert Elwood McBroom
 Thomas Gerald McCarthy
 William Menzies McCorkindale
 Charles Wilson McCrary
 Norman Andrew McCullough
 Clark Alexander Porter
 Herbert Wooliver Reeves
 Edmund Gordon Rodger
 Lloyd James Saunders
 Edgar Briggs Sisley
 Kenneth Wellington Sproule
 Sarah Ellen Stark
 Charles Alexander Stewart
 Harold Arthur Swales

Wyatt Bradfield Macdonald
 Murray John McDougall
 John Archer MacGowan
 John Gordon MacKenzie
 Malcolm James McKinnon
 Edward Graham Merner
 William Barraclough Milburn
 John William Elliott Monfries
 William James Olmstead
 William George Thomas
 Gordon Bertram Thurston
 Earle Harold Urie
 John Edington Verth
 Anthony Joseph Vince
 Clarence Stanley Watters
 John Flewelling West
 Edgar Angus White
 John Bertram Wilkes

Motoring to Halifax

The Canadian Dental Association Convention will be held this year in Halifax, N. S., on August 16th to 19th.

In the April issue of the Dominion Dental Journal a routing was given for those contemplating a motor trip to Halifax. In this issue will be outlined several routes for the return trip to Toronto.

Route 1. The all motor route leaving Halifax passing through Truro, Moncton, St. John, Ellsworth, Bangor, Augusta, Portland, Boston—798 miles.

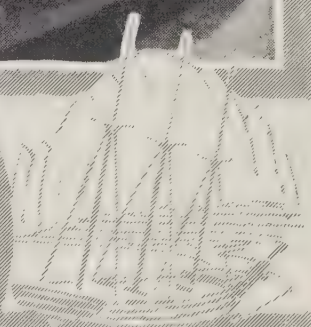
Route 2. Leave Halifax—Liverpool—Yarmouth, 231 miles. Night steamer to Boston.

Route 3. On leaving Boston, motor through Fitchburg, Greenfield, Albany, Rochester, Lewiston, Hamilton, Toronto—585 miles.

Route 4. Through the White and Green mountains, and the Adirondacks. Boston, Portland, Levin Mountains, St. Johnsbury, Montpelier, Burlington Ferry to Port Kent, Ansable chosen, Elizabethtown, Lake Placid, Saranac Lake, Malone, Ogdensburg, Ferry to Prescott, Toronto—776 miles.

A number are intending to attend the International Dental Congress to be held in Philadelphia, August 23th to 29th, and a routing would be from Boston through Providence.

New London—New York	249	miles
New York—Philadelphia	95	344
Philadelphia—Delaware Gap—Scranton	133	477
Scranton—Binghamton—Watkins Glen	145	622
Watkins Glen—Buffalo	148	770
Buffalo—Toronto	120	890



(1) Yarmouth Harbor. (2) Waterfront—Halifax. (3) Sea Bathing Opposite Yarmouth Tower.

Dental Society of Western Canada

The plans for the 1927 Convention of the Western Canada Dental Association were in abeyance until at a recent meeting of the Edmonton Dental Society it was decided to accept the meeting to be held in that city.

On this decision being arrived at, a meeting of the Executive of the Western Canada Dental Association and the Edmonton Dental Association was arranged. Dr. Doyle of Calgary, now President of this Western Association, Drs. Garvin and Manly Bowles representing Manitoba; Drs. Winthrope of Saskatoon and Cameron of Swift Current, representing Saskatchewan, arrived in Edmonton on Saturday, May 30th and went into session with the local society. Reports from the Winnipeg meeting of 1925 were received and such success had attended this pioneering effort, from standpoints of clinicians, attendance and finance that no doubts were entertained for the 1927 meeting.

The general meeting was adjourned and the two Executives then met to formulate plans and appoint committees. This Association is now well away to a good start. The Edmonton men can and will put on a good meeting and with powerful backing from the three western Prov. Boards, the men in the west have visions of big things to grow out of this unifying effort.

(The above is a summary of what has taken place up to date).

Leslie McIntyre.

McGill Finals in Dentistry

The following, in order of Merit, have qualified in all requirements of the University for the degree of Doctor of Dental Surgery (D.D.S.): C. S. Silsby, Aurora, Maine; A. W. Burbank, Lachine, Que.; H. C. McNabb, Renfrew, Ont.; R. A. Wheatley, Montreal; Marcus Star, Montreal; Miss F. A. Johnston, B. A., Montreal; Ronald Henderson, Moose Jaw, Sask.; G. W. Sugden, B. A. Cornwall, Ont.; R. A. Comeau, Montreal; C. E. Jerome, Vancouver, B. C.; J. A. Kerr, Montreal; F. C. Thompson, Ottawa, Ont.; A. M. Watson, Edmonton, Alta.; W. C. Sullivan, Williams-town, Ont.; H. E. Smith, Regina, Sask.; Wm. Scheffer, Montreal; S. T. Goodnoh, Montreal; H. R. Brown, Montreal; D. S. Watson, Montreal; H. E. Halpin, Lacombe, Alta.; H. N. MacKinnon, Glace Bay, N.S.; R. G. MacGregor, New Glasgow, N.S.; W. E. Charland, Montreal.

M. J. O'Mara has completed the Fourth Year, with the exception of Prosthetic Written and Prosthetic Practical (Dentures), which will be completed in September.

A new hypothesis by Hatten that mouth infection is an index of the individual's general reaction to infection, that mouth infections parallel the progress of disease elsewhere in the body and that mouth infection is often secondary to other diseases.

First Annual Banquet of Students of the Faculty of Dentistry, Edmonton

Dentists and dental students were entertained at the first annual banquet of the Dental Students' Club of the University of Alberta held in the Corona Hotel on Wednesday evening, when this society embodying the members of the youngest department of the local institute of learning, made its acquaintance with the dental profession.

W. P. Calhoun, president of the club, acted as toastmaster for the evening, calling on J. W. Gerrie to propose a toast to the profession. Dr. A. Eldon Jamieson, a dental practitioner of the city for many years and a resident of the district almost since the beginning of this booming city, replied, giving his idea of some of the aspects of the profession and what might be expected from it.

Dr. H. E. Bulyea, head of the dental department of the university, replied to a toast to the faculty proposed by H. McClean, indicating some of the peculiarities and incidents connected with the practise of the profession in the province, the licensing of men and the beginning of the dental department at the university in 1919 and tracing its progress to the present college which will graduate its finished product a year from this spring.

Officers of the Thunder Bay Dental Society

President, Dr. H. Quackenbush; vice-president, Dr. H. Hutchison; secretary, Dr. J. H. Langtry.

It was the decision of the assembled dental surgeons that they would participate along with the medical profession in the observance of Ontario Health Day on October 20. On that day dental clinics will be held in public schools and other convenient places with the object of teaching people how to care for their teeth.

Alumni Reunion of Dentists

The annual alumni reunion of the dentists of Montreal University took place on May 16th. In the course of the day several clinics were given by the professors.

A banquet was held in the evening, Dr. J. Nolin, who was introduced by Hon. Dr. David, spoke to the assemblage concerning the development of dental surgery in the province of Quebec. Dr. Eudore Dubeau moved a vote of thanks. Mgr. Piette, rector of the University, and Dr. Ernest Charron also spoke a few words.

Eastern Ontario Dental Association

The forty-ninth annual convention of the Eastern Ontario Dental Association will be held at the Algonquin Hotel, Stanley Island, Cornwall, Wednesday, Thursday and Friday, June 23, 24 and 25.

An excellent programme is being prepared. The following gentlemen have consented to submit papers:

1. Dr. C. Alvin Snell, Toronto:
"Periodontia for the General Practitioner."
2. Dr. A. E. Webster, Toronto:
"Focal Infections."
3. Dr. D. C. W. Coupland, Ottawa:
"Exodontia."

One or more papers on live topics are being arranged and will be announced later.

Keep the dates open and prepare to make this a real holiday.

Bring the Ladies.

Golf.

Tennis.

Fishing.

Dancing.

Orchestra in the evenings.

Full programme will follow later.

A. A. SMITH, President.

S. G. McCAUGHEY,

President,

Secretary,

Cornwall, Ont.

384 MacLaren St., Ottawa, Ont.

Ottawa Dental Society

The Dental Study Club, sponsored by the Ottawa Dental Society, held, during the week commencing April 12th, a course conducted by Rudolph L. Hanau of Buffalo which proved to be a unique and unparalleled success, not only in the interest manifested but also in the adaptability of its practical application by the general practitioner.

Over 40% of the combined total of the Ottawa Dental Society and Study Club supporters available attended Mr. Hanau's course. It would have reached a greater per cent. had not sickness during that week prevented previously enrolled members from attending. Conditions beyond their control prevented other contemplated members from participating in the course.

This remarkably high attendance percentage is of still greater interest and importance when it is considered that 82% of the practising Ottawa dentists take, or have taken, an active interest in the meetings of the Dental Society or Study Club during the past five years. 71.5% of the total Ottawa dentists supported the Society in 1925-26.

Mr. Hanau's course was a brilliant success, theoretically and clinically, and although the general practitioner might at first expect that the technique would be too difficult, nevertheless, it was first explained so simply, and then afterwards so clearly and repeatedly demonstrated, that it was "brought home" to each and every member of the class.

One full upper and lower denture case was carried through, and practically completed during the week's class, as well as over twenty correction cases.

Mr. Hanau recorded in Ottawa the same conditions as he found prevailing elsewhere from coast to coast in the States. In his experience of checking-up full denture cases for investigation or correction, it was found that in the examination to date of about one thousand cases made on arbitrary instruments that only one, single, solitary case goes on record as being correct as regards balanced articulation.

This case occurred in California, and was an accident; an accident in that the particular articulator was sitting idle on a shelf in the dentist's laboratory; and a further accident insomuch as the patient just happened to fit that particular articulator.

Like a well-known Roman General of old, who on one occasion of victory dispatched "Veni, Vidi, Vici," "I Came, I saw, I conquered," Rudolph L. Hanau has convincingly carried all before him and demonstrated to us our errors of the past and their means of correction. His demonstration was most gratifying and encouraging in that with care and understanding we can avoid our past mistakes and build up for our future patients, dentures of comfort, satisfaction, greater efficiency and longer service.

Patients, with records of having numerous dentures made, all of which proved to be failures, were presented to the class. The reasons for failure were clearly pointed out by Mr. Hanau and those dentures which were within correctable limits were, by means of the Hanau technique, converted into comfortable efficient dentures. This feat was performed in some cases in less than one hour. Other cases were so far off as to call for complete reconstruction.

The week's course of evenings only, and one afternoon, was most profitably spent, and will repay one hundredfold, financially to ourselves, in comfort to our patients, and in the peace of mind that we have seen the light and can thereby render a service, heretofore impossible.

The Dental Study Club of the Ottawa Dental Society has gone on record as recommending its early investigation by similar organizations, and that no prejudice or undue influence should stand in the way of its serious consideration.

While some may state that the Hanau technique is inseparable from the Hanau articulator for full denture cases, we feel that the principles involved and so clearly demonstrated have given us a new and broader conception of functional occlusion than we ever had before, and are applicable in general practice not only in full denture cases, but also in partial dentures, in fillings, inlays, onlays, crowns, bridges, periodontia and preventive periodontia cases.

Let honor be given where honor is due, and may the time soon come when full recognition will be given by the profession at large and all concerned for the invaluable services rendered to a tolerant and long-suffering public, rendered by one of an allied profession with the genius to conceive, contrive, and adopt ways and means to surmount which, heretofore, had been a stumbling block to our profession.

Our aim is to "carry on" in our Study Club the Hanau technique and its application, and thereby obtain and maintain greater efficiency in our chosen profession, and render a greater and broader service to humanity."

Officers of the Academy of Dentistry, Hamilton

Officers for the ensuing year were elected as follows: Dr. J. E. Johnston, honorary president; Dr. J. N. Stewart, president; Dr. H. L. Field, vice-president; Dr. Lee Kilborn, treasurer; Dr. G. M. Philp, secretary. Dr. W. G. Thompson was appointed to the oral hygiene board. Dr. J. F. Johnston presided.

Officers of the Ontario Dental Association

Dr. J. A. Bothwell, 86 Bloor street west, was unanimously elected president of the Ontario Dental Association at the concluding business session of the convention. He succeeds Dr. J. C. Devitt of Bowmanville, who was elected honorary president. Dr. A. W. Winnett of Kingston was elected vice-president, and Dr. C. A. Kennedy and Dr. Fred J. Conboy were confirmed archivist and secretary-treasurer.

The board of governors are: Dr. O. S. Clappison, Hamilton; Dr. W. L. Chalmers, Toronto; Dr. W. B. Amy, Toronto; Dr. T. F. Campbell, Galt; Dr. A. W. Ellis, Toronto; Dr. E. R. Zimmerman, Toronto.

Oral hygiene committee: Chairman, Dr. A. W. Ellis; secretary, Dr. J. C. Livett; Dr. F. C. Husband, Dr. R. J. Readex and Dr. H. E. Eaton.

Officers of the Academy of Dentistry, Toronto

President, Dr. G. H. Robb; president-elect, Dr. H. S. Woollatt; past president, Dr. W. G. Spaulding; treasurer, Dr. H. H. Cummer; secretary, Dr. S. S. Crouch; councillors, Drs. F. Risdon, H. Clark, G. V. Fisk and W. A. Black. At the meeting last evening Dr. Percy Howe of Boston gave an address on "Diet as a Factor in Dental Diseases."

Officers of the Regina Dental Association

President, F. K. Switzer; Vice-President, C. C. Craigie; Secretary, Fraser Smith.

Moncton Dental Society

Election of officers for the ensuing year took place at the annual meeting of the Moncton Dental Society held last evening. Dr. J. A. LeBlanc was named president with Dr. C. F. M. Purdy as vice-president and Dr. A. H. LeBlanc as secretary-treasurer.

Some lay writers on dentistry are trying to frighten people from having their teeth extracted because of the danger to life. The chief danger pointed out is from too many extractions at one operation.

Editorial

EDITOR:

A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.

ASSOCIATE EDITORS:

QUEBEC—Eudore Debeau, L.D.S., D.D.S., 396 St. Denis Street, Montreal; A
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ALBERTA—Leslie McIntyre, D.D.S., L.D.S., Edmonton.

NEW BRUNSWICK—Jas. M. Magee, L.D.S., D.D.S., St. John.

SASKATCHEWAN—W. D. Cowan, L.D.S., Regina.

PRINCE EDWARD ISLAND—J. S. Bagnall, D.D.S., L.D.S., Charlottetown.

MANITOBA—M. H. Garvin, D.D.S., L.D.S., Winnipeg.

BRITISH COLUMBIA—E. H. Hetherington, D.D.S., L.D.S., Victoria.

ONTARIO—S. Stewart Crouch, D.D.S.

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No. 6

Translucent Zones in Enamel

In the May issue of the British Dental Journal appears a paper by Mr. Mummery on the subject of translucent enamel. An editorial writer in the same issue makes these comments:

"We think that his very moderate contention that these zones do actually exist, and that they are not due to decalcification but to the reverse process is reasonable, and that it is borne out by his paper. His conclusion that the zones show that enamel must be looked upon as a vital substance capable of reacting to stimuli will probably meet with a mixed reception." It has been assumed that enamel had lost all vitality when once it was formed. What Mr. Mummery has found only goes to confirm what clinicians have observed for many years, that enamels of vital teeth under proper stimulation could be made to take on a luster and resistance to dental caries not found in enamels of teeth with non-vital pulps. It may yet turn out that the contentions of Smith, Adams and Head are true, that enamels can be improved from stimulation from without. The article under discussion would seem to indicate that there is still some doubt as to the existence of organic matter in enamel. Surely clinical observations and the laboratory work of Bunting, Boedecker and others had settled this question. If it is shown that enamel sets up a barrier to the invasion of caries then the presence of organic matter in enamel must be forever settled.

New Regulations Dept. of Health, New York

In this issue appears a new regulation in the Department of Health of the city of New York. We received these regulations in the same mail that brought us the sad news that one of our most prominent dentists had just had his hand removed because of X-ray burns of many years past. Regulation 2 should be read very carefully, because since this is the first regulation of the kind others will follow and likely copy the exact wording. "Every X-ray laboratory shall at all times be in charge and under the direction of a duly licensed physician or other person licensed under the state laws to diagnose and treat diseases and whose knowledge, experience and qualifications to operate and use an X-ray machine are satisfactory to the health department."

Thus a dentist who may be licensed to diagnose and treat disease must in addition have the necessary experience and qualifications to use an X-ray machine in the opinion of the Department of Health. All physicians are presumably qualified while all dentists are not. In view of the fact that dentists were among the first to see the value of the X-ray and bring it into general use it is rather strange that they must prove their knowledge while the physician though he knows little of its operation does not need to do so.

DEPARTMENT OF HEALTH 505 Pearl Street, New York City

Sanitary Code and Regulations Governing the Conduct and Maintenance of X-Ray Laboratories in the City of New York

SANITARY CODE

Section 107. No person shall maintain, operate or conduct an X-ray laboratory or advertise or hold out to the public that an X-ray laboratory is maintained, operated or conducted, wherein radiographs are taken, diagnoses made or human beings examined or treated by X-rays, without a permit therefor issued by the Board of Health, or otherwise than in accordance with the terms of said permit and with the Regulations of the said Board. (As adopted by the Board of Health, January 26, 1922).

Regulations Governing the Conduct and Maintenance of X-ray laboratories in the City of New York. (Adopted by the Board of Health January 26, 1922).

Regulation 1. Information to be furnished by applicant. Every application for a permit to conduct an X-ray laboratory shall be made in writing on an official blank to be furnished by the Health Department and must contain the following information:

Location of building.

Location in building.

Character of building.

Name of owner of building. Address.

Name of applicant. Address.

If a corporation:—

(1) When and where incorporated.

(2) In what County certificate has been filed and date filed.

(3) Officers of the corporation.

(4) Place of business of the corporation.

(5) Full and accurate incorporate name.

If a partnership:—

(1) Names of persons composing partnership in full, with their places of residence.

If a trade name:—

(1) The full names of the person or persons doing business under such trade name.

(2) Complete and full trade name.

(3) Place of filing of certificate as required by the statute, and date filed.

Regulation 2. A duly qualified person to be in charge. Every X-ray laboratory shall at all times be in charge and under the direction of a duly licensed physician or other person who is licensed under the Laws of this State to diagnose and treat diseases and whose knowledge, experience and qualifications to operate and use an X-ray machine are satisfactory to the Health Department. (As amended by the Board of Health, February 6, 1926).

Regulation 3. Precautions against danger. Every X-ray laboratory shall be so constructed as to confine within the operating room the rays emanating from the machine and it shall be equipped with suitable and necessary appliances and devices at all times when the X-ray machine is in operation for the proper protection of patients, operators and all other persons or property adjacent, contiguous to or coming in contact with the electrical or other current or force or spark generated or incident to the operation and use of the X-ray machine.

Regulation 4. Permits may be revoked in the discretion of the Board

Regulation 5. No permits shall be transferable as to the person or place. A permit is issued to a particular person, firm or corporation and for a given location, and is not valid for use by any other person or in any other place than stated in the application for a permit.

Business Enterprises of Physicans and Dentists

It has always been a mystery to the business men among physicians and dentists why they continued to pay rents and profits to owners of buildings while they might conduct these themselves to the advantage of themselves. Here and there physicians and dentists have built or bought buildings which were occupied by themselves. These enterprises have not always been a success. A few years ago a physicians' and surgeons' building was erected in Toronto by a building company. This enterprise seems to be a great success.

A more recent development along the line of erecting buildings for physicians and dentists is now undertaken by the physicians and dentists of Chicago. They propose to spend \$4,500,000 in the erection of a physicians' and dentists' home within the loop. This is the most ambitious enterprise ever undertaken by the medical or dental professions.

The Medical and Dental Arts club, organized less than two years ago, is made up of the Chicago Medical and the Chicago Dental societies. Dr. John S. Nagel is president; Dr. John H. Cadmus is first vice-president, and Dr. Robert H. Hayes second vice-president. The secretary is Dr. Frederick

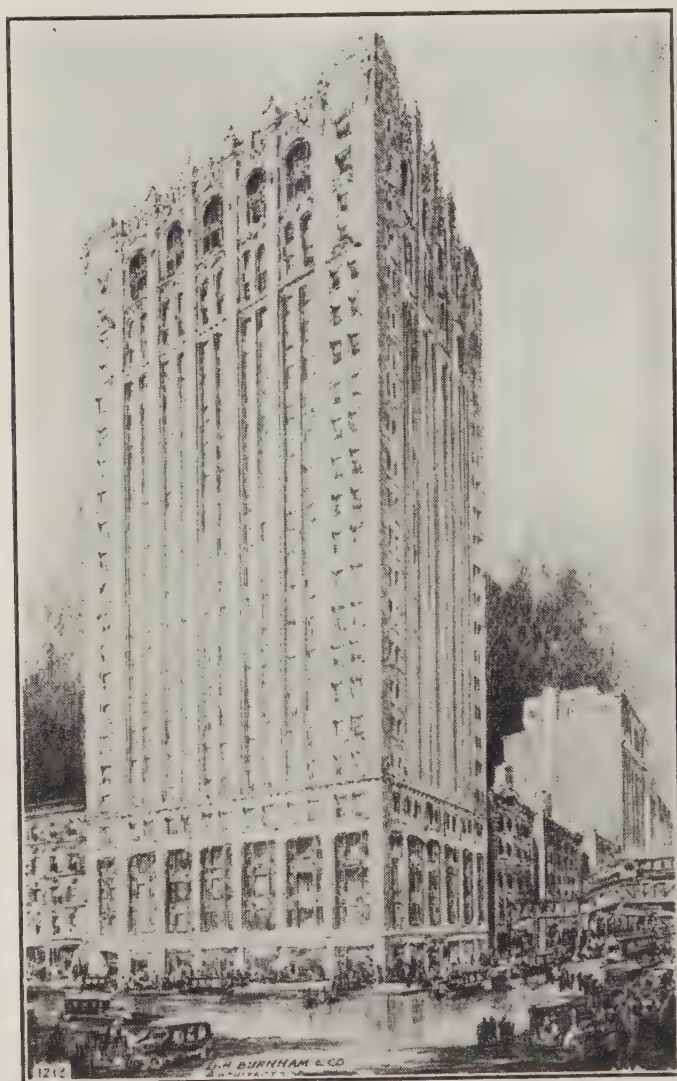
R. Green, and the treasurer Harry B. Pinney. John A. King is business manager.

Objects of Club

The board of trustees includes Dr. Frank Billings, Dr. William A. Pusey, Dr. Jeremiah H. Walsh, Dr. Hugh N. MacKechnie, Dr. Otto U. King, Dr. Charles N. Johnson, Dr. C. E. Humiston, Dr. A. A. Goldsmith, Dr. M. M. Printz and the officers of the club.

In addition to conducting a social and professional club the organization has two other objects, to erect a permanent home for all the medical and dental societies in Chicago and to create a commercial center in which will be located all the leading medical and dental supply houses.

To carry out this program the new skyscraper will contain stores and salesrooms on the first floors; a two storey auditorium and assembly room on the fifth and sixth floors for use of the medical and dental societies and



other large scientific organizations, also headquarters offices for the American Dental association and the Chicago Dental and the Chicago Medical societies.

Club on Upper Floors

The seventh to the fourteenth floors will be occupied by medical and dental supply houses. From the fourteenth to the twenty-first there'll be professional offices for physicians and dentists.

The two upper floors, the twenty-second and twenty-third will be used by the Medical and Dental Arts clubs, with a lounge, library and reading room, dining-rooms, etc. It is expected to make these the finest clubrooms of their kind in the world. This is said to be the only strictly professional club in the United States which will offer club advantages to its members as well as own and operate a building for the benefit of both professions.

First of Its Kind

This building project is unique in that it is said to be the first building undertaken by the united medical and dental professions. It also is said to be the first effort made to create a professional center in any city which would bring together the commercial, social and professional activities of the medical and dental bodies.

The Chicago Medical society has been in existence for seventy-five years and the Chicago Dental society is nearly half a century old. In addition to these two main societies, there are at present in Chicago nearly fifty special societies, such as the Institute of Medicine, the Society of Internal Medicine, etc. These organizations have no permanent meeting places.

Notes

The French chamber has passed a bill forbidding the use of dummy teats or as we call them "comforts".

Dr. W. H. Bulmer, Saskatoon, Sask., sued the city for \$11,000 damages for injury from a falling electric light pole.

Dr. William M. Woodbury has removed his office to 70 Spring Garden Road, Halifax, N. S., orthodontic practise exclusively.

The graduating class of 1906 R. C. D. S. had a class re-union and dinner at the Walker House, Toronto, May 19, 1926. Mr. J. P. Hagerman of the Y. M. C. A. was the guest of honor.

The faculty council of the faculty of Dentists of the University of Toronto elected the following members to represent them on the Senate of the university: A. D. O. Mason, C. A. Kennedy, Edgar Paul and A. E. Webster.

In an obituary of the late Dr. Wilkey in the April issue appeared a phrase which indicated that Dr. Wilkey had not been in active practise in London. We sincerely regret this error as Dr. Wilkey had been constantly in practise in London.

Permission has been granted by a number of British authorities for the wearing of academic costume by licentiates in dental surgery. It is proposed to wear such costumes at the annual meeting of the British Dental Association. As an observer of such gatherings it was the only thing wanting to make them appear as representing a great educational body.

There were 636 registrants at the recent Ontario Dental Association meeting in Toronto.

It is reported that 20,000,000 artificial teeth are imported into the British Isles each year.

The Kiwanis Club of Toronto entertained 300 members of the Ontario Dental Association at luncheon.

The dental nurses in attendance at the annual meeting were entertained at tea by Goldsmith Bros.

After much investigation the Hebrew hospital of New York says rickets in children delays dentition.

Thornhill Golf Club gave the dentists in attendance at the Ontario convention an opportunity to play over their excellent links.

A dentist in Ohio has gained some notoriety by claiming that he was cured of some serious malady by throwing away aluminum kitchen utensils.

Dr. John H. Fisher, London, has found that streptococcus viridans is present in cases of pyorrhea while not commonly found in normal gums.

Dr. S. J. Graham, Peterborough, Ont., gave an illustrated lecture on the care of the teeth to the Red Cross nursing classes which had been conducted during the winter.

The St. John Dental Society held its monthly dinner, May 16. Dr. Coughlan was in the chair. Dr. Abrahamson, provincial pathologist, was the speaker of the evening.

Thomas McDonald of Rochester, N. Y., gave a talk on economics to the Graduating class of the Faculty of Dentistry of the University of Toronto. Some changes in the dental course are anticipated at Dalhousie.

The Red Cross Society in the health literature has a very good article on teeth, health and good looks. Of late years there has been great stress on health and not enough on good looks. Most people would rather be good looking than healthy, if such a thing were possible.

Writers on public health all over Canada seem to be intensely interested in oral hygiene just now. The public can be very easily interested in dentistry, in fact medical inspection can only be introduced in some school districts by the wedge of dental inspection and treatment.

SPECIAL THIS MONTH — New Burs \$7 — ROUND — INV. CONE — WHEEL—size 3/0, 20c per dozen. HIGHEST prices paid for scraps, etc. WE RECUT your used burs extra sharp at 25c per dozen. Sheun Co., 602 Oakwood Blvd., Chicago, Ill., Established 1906.

Dominion Dental Journal

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ORIGINAL COMMUNICATIONS

Action of Germicides in the Pulp Canal

C. JANE FRASER, M.A., FROM THE DEPARTMENT OF DENTAL RESEARCH,
UNIVERSITY OF TORONTO, 1925

The cavities of extracted teeth were cleaned free of all visible decay, and the root canals opened. They were mounted in a piece of rubber tubing (wired to make them quite tight) which, in turn, was embedded into a block of plaster of paris, thus leaving the apical end of the tubing open. (Diag. I.) Between each test the mounted teeth were soaked several days in water, which was repeatedly changed, and the teeth were cleaned with a rough broach to remove all particles of cotton which might be adhering within the cavity. Both the cavity and exposed end of the tube were plugged with cotton (Diag. 2) and the teeth, enclosed in a box with moistened absorbent cotton in the bottom, were sterilized in the autoclave on two successive days at 15 lbs. pressure for 30 minutes.

The following experiments were done:

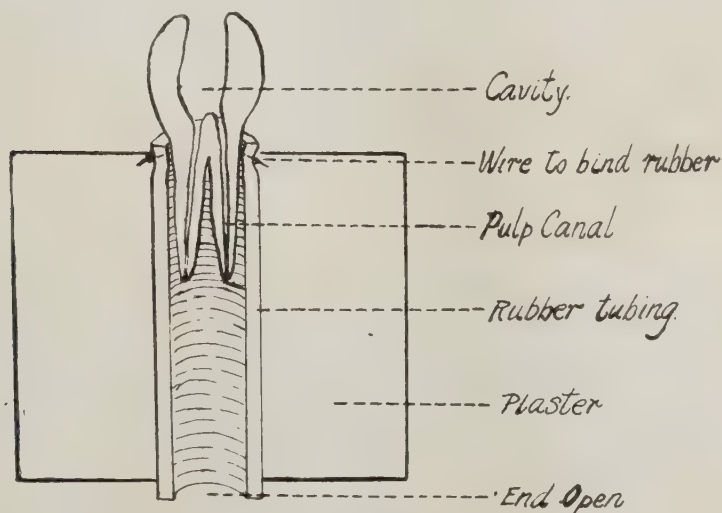


Diagram I

1. To determine the action of certain germicides in the pulp canal.

The pulp chambers of sterilized teeth, prepared as above, were flooded with an 18-hour broth culture of staphylococcus aureus, which was forced into the canal with a sterilized broach. The cotton plug was replaced and covered with melted wax. The teeth were then incubated over night at 37° C. The next day they were again flooded with the culture and reincubated. The following day (after 48 hours) total exposure to the bacterial culture, a sterilized cotton point was dipped into the germicide which was being tested, inserted into the pulp canal with the aid of a broach, the canal and pulp chamber flooded with the germicide, the plug replaced, waxed, and the tooth reincubated. After 24 hours the germicidal cotton point was removed and one moistened with broth was placed in the canal, and the pulp chamber was flooded with broth. After one half to one hour of incubation this point was removed and placed in plain broth. Transfers were made later to plain agar agar to be assured that the

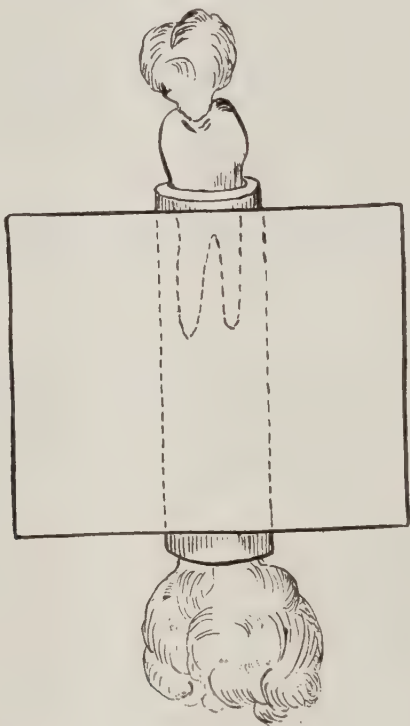


Diagram II

organism, which was recovered, was staphylococcus aureus and not a contaminant. Controls were done without the germicide.

Germicide	No. sterile	Staph. aureus recovered
Camphophenique	5	3
Oil of Cloves	6	11
Formocresole	6	14
Creosote	4	4
Controls	4	24

In the control series from 1/6 of the infected no bacteria were recovered, probably because the canal had dried. With all the germicides used about 50% of the infected teeth yielded organisms. The germicides, apparently do not effectively penetrate into all the canaliculi.

2. To determine if bacteria can pass through the apical foramina.

Teeth were prepared as usual, but the rubber tubing at the apical end was filled with melted agar agar, plugged and waxed to prevent evaporation. The cavities were flooded with a broth culture of Staphylococcus

aureus, plugged, waxed and incubated for 24 hours. The agar agar was then removed from the apical end to plain broth in order to determine if the *Staphylococcus aureus* had passed to it from the canal.

Number of teeth from which *Staphylococcus aureus* was recovered from the apex which had been infected through the canal—37.

Number of teeth which did not become infected through the root canal—14.

The passage of bacteria through an infected canal is almost unavoidable (about 75%) and probably depends on the size of the apical foramina.

3. Sterilization of infected apices through the pulp canal.

Teeth were prepared as usual, but a piece of absorbent cotton was placed at the apical end. This was then saturated with a broth culture of *Staphylococcus aureus*. Absorbent cones were placed in the pulp canal and the cavity flooded with the germicide. After 72 hours incubation the cotton from the apical end was removed and put in broth.

Germicide	No. Sterile	Staph. aureus recovered
Camphophenique	0	4
Oil of Cloves	2	5
Creosote	2	13
Formocresole	0	4
Controls	0	5

The ability of germicides to pass, without pressure, from the canal and sterilize the apex is almost negligible. Where the apical foramina, however, is very large the germicide may pass through and possibly this accounts for those from which no growth was obtained. This would be almost impossible to determine for clinical application.

4. The following experiment is a combination of the previous ones and was designed to show the possibility of bacteria passing from the canal to the apex, the sterilization of the canal and the sterilization of the apex through the canal. Teeth were prepared as usual. The apical end of the tube was filled with agar agar as in the previous experiment, and on two successive days the canal was flooded with a broth culture of *Staphylococcus aureus*. After 24 hours incubation cotton points dipped in the germicide, which was being tested, were placed in the canals and the cavity flooded with the germicide. After two days these were removed and replaced with fresh ones dipped in plain broth, and reincubated for about one hour. Both the cotton point and the agar agar from the apical end were placed in plain broth and incubated.

Germicide	Root Canal		Apex	
	No. Sterile	Staph. Aureus recovered	Sterile	Staph. Aureus recovered
Creosote	8	4	2	9
Oil of Cloves	1	8	2	7
Formocresole	22	12	1	12
Control	4	20	6	18

CONCLUSIONS

1. Bacteria pass readily from the canal to the apical area and the infection of the apical area from an infected canal is almost unavoidable.

2. The efficiency of the germicides which were tried in the root canal was about 50%.

3. The ability of the germicides to pass through the apical foramina thus sterilizing the apex, is most uncertain.

“Dental Diseases and General Health”

DR. E. L. HATTON

Read before the Ontario Dental Society, May, 1926.

No recent contribution has done more to dignify the position of the dentist, or to increase his responsibility, than the theory of focal infection. However grateful he may be for the former, the added burden of this increased responsibility for health conditions remote from the mouth is not a welcome one. But if the validity of this theory is accepted to any degree at all, he must accept this added burden with all its consequences, or give up the practice of his profession.

One would neither care nor dare to refute this hypothesis of focal infection in toto. To the men and women who are practising the healing art, it offers so promising a resource both in diagnosis and treatment, that to give it up entirely would handicap their therapeutic procedures to a very noteworthy degree. In the second place, so much evidence favorable to its acceptance has been accumulated in the last decade that it is hard to conceive of a person rash enough to deny this hypothesis completely. At least such an individual must be classed with those who refuse to accept the statement that the earth is round and revolves about the sun, or with those who do not believe in the theory of evolution.

According to this theory, germs or bacteria of a low grade of virulence have the property of locating, or colonizing, in certain favorable positions beneath the skin covering of the outside of the body, or within the mucous membrane lining such cavities as those found in the digestive tract, the respiratory system and the genito-urinary apparatus. In such places these bacteria produce lesions that either remain symptomless or cause symptoms of such a vague character that their inflammatory nature is not recognized, lesions whose progress and development are not noticed and which, therefore, exist for long periods of time—months and years—before any measurable damage is done. It is assumed that from these lesions either bacteria or their poisonous products are supplied to the blood stream or the lymph, to be carried even to the most remote parts of the body, where either similar colonies are planted if living bacteria make their way into the blood stream, or damage is done to highly specialized cells if only the poisonous bacterial proteids are discharged into the blood or lymph.

There is a marked difference between these two processes, since the first may be compared with the distribution of seeds from a cottonwood tree; wherever a seed lodges and develops into a new tree, another center for the distribution of seeds is established which may, and does, continue to exist long after the original tree has been destroyed. In just the same way a secondary colony of bacteria—that is a secondary focus—may, and no doubt does, exist in many cases long after the original focus has been eliminated. From this secondary focus, which now acts in all respects like the original, bacteria and their poisons may be distributed as freely as from the first, though that has been completely destroyed.

If only the poisons, that is, the toxins, find their way into the body fluids, the secondary lesions are not bacterial foci, and cannot reproduce the original focus, and must become inactive as soon as the primary lesion is

eliminated. However, the secondary changes may be of such a permanent character as to handicap the organ or part involved.

There are two paths by which bacteria break through the protective lining of the dental arches in the mouth. This lining has a greater degree of resistance to bacterial penetration than any other part of the body, and even after the bacteria have achieved penetration, the inflammatory reactions which they produce are usually of a very low grade. The first is by bacterial penetration through defects in the crown of the tooth produced by caries, abrasion, erosion or accident. Since it is impossible to close such breaks by any form of epithelial repair, the only resource the body has is found in the connective tissues. Secondary dentine and more or less dense walls of connective tissue, first in the pulp and later at the apex, are thrown across the pathway of the invading bacteria. This noteworthy development at the apex constitutes the so-called granuloma, abscess-sac or apical inflammation, consisting essentially of granulation tissue, containing bacteria more or less constantly, and surrounded by a fibrous tissue envelope which may be complete or only partially developed. The important consideration is that this encapsulation is only partially effective, since as long as bacteria are present in the region, either they or their poisonous products have a possible easy means of access to the circulation.

The second break in the epithelial covering occurs at the junction of the epithelium and the crown of the tooth at the bottom of the gingival trough. The epithelial lining of this trough is thin, and not calloused and tough as is the epithelium of the rest of the mouth lining. With the exposure of the connective tissues here a reaction takes place similar to that found about the apex previously described. It is probably true that bacteria are less likely to find their way from such locations to remote parts, but it is also true that their toxic products find a way very readily into the lymph spaces, and thence into the blood-stream. It seems essential that these poisonous bacterial proteids must find their way into the circulation by some direct path, in order to cause damage, since in their passage through the alimentary canal these toxic substances are destroyed by digestion.

The literature is full of instances of infections of the first class, associated with disease elsewhere in the body which have been cured by elimination of the inflammation at the apex of the offending tooth. Perhaps because the opportunity for drainage seems so ample in a pyorrhea pocket, there has been great hesitation in emphasizing the existence of a similar relationship of cause and effect between pyorrhea and systemic disease. Yet there are illustrations in such abundance of the improvement or cure of remote body disease following elimination of a pyorrhoeic condition that if the relationship of cause and effect is accepted in one case, it must be granted in the other.

On the whole, up to this point there is little difference of opinion. It is generally agreed that infection by bacteria—whether acute or chronic—is a menace to the host, and must be eliminated as speedily as is practical, and furthermore, that as far as possible the development of primary foci must be prevented, the latter a phase of preventive medicine and dentistry.

It is in the details of the application of this theory to the solution of the problems involved in treating and preventing such infections in the mouth, that the widest divergence of opinion has arisen.

The views of the most radical group in the dental profession may be summed up as follows:

1. That the most frequent location of the primary focus, that is the beginning of this condition of focal infection, is found in the mouth, and particularly around the apexes of teeth.

2. That such low grade infections, including those just mentioned, as well as tonsil infections and many others, are the commonest sources, if not the only sources, of the degenerative diseases of the latter decades of life, such as heart and kidney disease, arthritis, and even cancer.

3. That when the apical region about a tooth has been infected, such infections can be cured only by the removal of the offending tooth, because such a tooth after it has been treated and filled invariably becomes reinfected a short time after such treatment.

4. That since all pulpless teeth are dead teeth, such teeth, even if the pulp canals and apexes are not infected, should not be treated, but should be extracted.

5. That even in the earlier stages of caries and pyorrhea the tooth pulp has already begun to degenerate, or has become infected, and that the apex, if not actually infected, is potentially infected, and the health of the remote organs and tissues already threatened.

The validity of such notions deserves a careful analysis.

As to the prevalence of these low grade infections in the mouth, there is little difference of opinion. The data accumulated by Black have been widely quoted, and as far as I know have never been questioned. According to him, dental infection, not at all rare in the earlier decades of life, gradually increases until, except in edentulous mouths, only from 2 to 10 out of every 100 individuals are without radiographic evidences of such infection in the last decades. On this basis alone, since chronic mouth infection occurs more frequently than in any other place in the body, it has been assumed that the mouth is the most common location for the primary focus in focal infection.

As far as I know, no one has ever been able to isolate germs from the blood of individuals suffering from these low grade infections of the type found in the tonsils or about the roots of teeth. Even the blood of animals injected with billions of bacteria cultured from such low grade infections, rarely supplies a positive culture test. The mechanism of the penetration of bacteria from acute and chronic infections cannot be essentially different, except that bacteria from acute conditions probably enter the blood stream in greater number, and because of their virulence persist longer. There should be a rough parallelism between the frequency of the origin of acute and chronic conditions in the various parts of the body. Walton Martin studied the sources of bacteria recovered in the blood in 162 cases. Of these 50 originated in the trunk; 25 in the middle ear and mastoid region; 23 in the head and neck; 11 in the hand and arm; 8 in the legs and feet; 6 in the lips and cheek; and 39 were not traced to their source. From such figures it is difficult to make a strong case for the outstanding importance of the mouth as a source of focal infection.

It occurred to me that a study of the sources of maxillary sinus infections might supply valuable information as to the relative importance of mouth foci. According to this analysis not more than 30 per cent. are primary in the mouth.

Not only do such figures tend to discount the relative importance of the mouth as a source of primary foci, but they supply an adequate explanation for the many disappointments encountered by clinicians in treating focal infection by eliminating all traces of mouth infection.

These notions differ markedly from those of individuals who see a great hazard, not only in every infected tooth, but in every pulpless tooth. There are those, indeed, who find every pulpless tooth an infected tooth using bacteriological methods, though such teeth are radiographically negative. Rosenow, for example, states that he has yet to find a pulpless tooth from which he has not isolated streptococci or similar bacteria. But this statement in many instances is based upon the appearance of a single colony in his shake cultures. Haden, using the same methods and reproducing Rosenow's results in most respects, not only finds instances of pulpless teeth that are negative culturally, but feels that he must have at least ten colonies in his culture tubes before he permits himself to be convinced that such teeth are infected. Haden's work is interesting in that he finds teeth with positive radiographs that are negative using bacteriological methods, as well as teeth negative in the radiographs, that harbor bacteria about their apexes, and that have gross evidences of infection.

A very careful study of teeth with apical infections surrounded by intact, thick, fibrous capsules, was made by Loeffler—a German investigator. He found a little less than half harbored bacteria, mostly green producing streptococci, and came to the conclusion that in this type of apical infection the bacteria tend to be destroyed, and that this not only represents a healing process, but that it is hard to conceive that bacteria may be distributed to remote parts of the body from such lesions. This corresponds to an opinion expressed by Gilmer, and in part with my own observations. I still believe, however, that bacteria when present do make their way into remote parts from such lesions.

Apparently one important consideration has been overlooked in the study of these lesions by bacteriological methods, including inoculation of animals. The reported experiments, as far as I know, largely concern bacteria from individuals who are not only harboring apical infections, but demonstrable lesions elsewhere in the body; that is, the bacteria come from persons who are sick, persons who have comparatively little resistance to bacterial invasion. A series of experiments made in our laboratory, using bacteria recovered from apical infections in individuals exhibiting no other evidences of disease, has yielded surprisingly few lesions in inoculated rabbits. On the other hand, we have been able to demonstrate a very definite selective localizing tendency in other cases. Mendel produced similar results by inoculating mice with streptococci isolated from apical infections. And it may be just this condition that has prevented the repetition of Rosenow's results in the hands of other workers.

In asthma, Koessler is of the opinion that about sixty per cent. of these phenomena may be traced to non-bacterial intoxication such as plant pollens, and only forty per cent. are of bacterial origin.

There is therefore, good reason while realizing the potential menace of mouth infection, to discount the part played by it in the production of foci elsewhere in the body, or in the production of the degenerative diseases of the latter decades of life.

Our studies made on pulpless teeth harmonize with others, and indicate that pulpless teeth are not dead teeth, and that even teeth with

infection; and those suffering from diseases of a degenerative type with high percentage of successful results.

While it is true that the pulps of teeth are very responsive to both diseases of the crown and the peridental membrane, and are likely to develop degenerations secondary to caries and pyorrhea, yet these changes are highly localized and not the potential hazard to health of the individual as has been suggested.

There seems, therefore, some rational ground for the adoption of clinical methods based upon arranging our patients into two general groups: those with mouth infection, but without noteworthy evidences of secondary infection; and those suffering from diseases of a degenerative type with multiple lesions—a condition so characteristic of the victims of disorders of this kind. It would not be at all remarkable if focal infection instead of being primarily a local condition, may be a distinct disease entity. This statement is the reverse of the usually accepted opinion, and must be taken merely as a suggestion.

The recent trend of the theories with respect to nephritis are of interest in this connection. Most of us have been taught that nephritis is primarily a disease of the kidneys, and that the rest of the body is involved only in so far as it is impaired by the failure of the kidneys to function. This newer theory assumes that nephritis, at least certain types, instead of being a local condition, is a general condition, and that all the cells of the body are involved, and the changes in the kidney cells parallel those of the rest of the body and do not precede them.

On this account I can and do sympathize with the effort of Price to classify mouth infections into groups; one susceptible to secondary infections, another immune, and a third midway between the other two. Unfortunately his susceptible group contains those who have apical infections that are small and distinctly encapsulated, just the type of lesion that Loeffler, Gilmer and others associate with a healing process and the reduction of the number of bacteria in the lesion, or even the actual extinction of the bacteria, as well as relative freedom from secondary infections. These two sets of observations can not be reconciled, and it is difficult to believe that the whole company, with the exception of one man, is out of step.

There are two phases of the incidence of mouth infection that are given but comparatively little attention. First, that mouth infection is an index of the individual's reaction to infection, and that mouth infection parallels degenerative conditions elsewhere in the body rather than precedes them, and second that mouth infection may, and often is, secondary to chronic in all, the mouth mucous membrane and the mouth tissues have a resistance to infection that is far greater than any other part of the body. If it were not so, the hazard of the practice of dental surgery would be of a much greater degree than it is.

It is a general truth that in the long run the most promising means of handling any infection consists in raising both individual and racial immunity, and to this end such resources as vaccination, diet and other preventive measures of the same kind are more to be prized than a rigid adherence to therapeutic procedures based on the elimination of parts of the body which may become the seat of such infections.

Throughout this paper I have stressed the notion that focal infection still has the status of an hypothesis, and in its application both to the

individual case and to the whole process of infection that this point of view must be maintained. One can neither promise the individual nor the world that if all traces of mouth infection are eliminated, a noteworthy, substantial, favorable result is bound to follow.

Our promise to the individual should be guarded. There may be a connection between his mouth infection and his broken health. If so, the effect of its removal may be almost miraculous. If not, our efforts will be entirely in vain. Our promise to the world must be equally guarded. We have no right as yet on the basis of the evidence that has been submitted, to assume that the removal of mouth infection is going to exercise a profound influence upon the incidence of the degenerative diseases of the latter decades of life. We may, and do, hope it is so.

I am most friendly to this hypothesis—but I do believe that I can do the cause the best possible service by stressing its limitations at this time. On the other hand, over-emphasis of its application to dental infection is bound to hamper its progress. It is my hope that the dental profession will adhere to a middle-of-the-road program, neither relapse to the sloppy procedures of the past decades, nor be carried off its feet by the adoption of a policy of extreme radicalism.

Transillumination of the Dental Arches

F. C. HUSBAND, D.D.S., TORONTO

Transillumination of the dental arches by the Cameron dentalamp is being somewhat widely used by the dentists and physicians to detect diseased conditions about the teeth. The claim is made by the manufacturer that whenever a shadow is thrown through the gums when the light is placed behind the root of a tooth that that shadow is a sure sign of infection of the tissues from the tooth, and that the tooth is a source of danger to the patient. Two conditions are mentioned where there is infection with no shadow, viz., in the case of an abscessed tooth with a sinus, or an abscessed tooth with drainage through the coronal end of the canal. The definite claim, however, as to the shadow is that all teeth showing a shadow are infected and all infected teeth without drainage show a shadow. What causes this shadow? The manufacturers claim that it is the precipitation of iron from the red blood corpuscle due to the toxic material from the infection.

Many dentists and physicians are now condemning all teeth with shadows—not dark or discolored teeth—but teeth showing a shadow on transilluminating them. Patients are being told that these teeth are bathed in pus and should be removed and that this method is much more reliable than the radiograph. Investigation has shown that a considerable error exists in the above interpretation of the shadow.

For instance: Case 1.—A lower molar was radiographed and showed a decided area, yet on transillumination was quite clear, though there was no external drainage.

Case 2.—A lower lateral root was filled with copper amalgam and the apical end resected and the surrounding bone curetted. The area filled in completely and has been checked up annually with radiographs which show no sign of an area. Yet this tooth treated in this most thorough surgical manner and with every evidence clinical and radiographic in its favor shows a shadow.

Case 3. An upper central incisor had had a sinus some years since. The sinus healed after treatment, by an operator other than the writer, but a dark spot remained to mark the place where it had opened on the gum. On transilluminating this tooth that spot shows up almost black, yet one would hesitate to say it was a sign of infection in that gum tissue.

Case 4.—An out-of-town physician sent a patient to Toronto to have four teeth extracted because they showed shadows. On radiographing the mouth some nine teeth were found without vital pulps—the 4 marked for extraction because of the shadow showed no area, while the remaining 5, not marked, were found to have areas.

Case 5. (This is typical of many others tested)—Tooth without an area but showing shadow had the filling removed and was put under treatment (formo-cresol followed by iodine and tricresol). Though the treatment was persisted in the shadow failed to disappear as the makers of the lamp claim it would.

The question that confronts us is: What is it that causes the shadow? If it is iron thrown down from the haemoglobin, one might expect to find a shadow by inserting and sealing an iron or steel wire in a root canal. But this test does not hold good for teeth without shadows do not show shadows when a steel wire is sealed in the root canal.

It would seem not unlikely that in certain cases some pigment becomes fixed in the tissues due to a previous inflammatory condition, as might be illustrated by the discolored scar tissue mentioned in case 3, but it would seem from our clinical records that the method of judging the condition of the tissues by the shadow in transilluminating is very unreliable as well as misleading.

University of Toronto Estimates

In the University of Toronto estimates, which have been reviewed by Hon. G. Howard Ferguson, Premier, and Minister of Education, there is no radical departure from the estimates entered a year ago. The sole difference is due to the presence of what formerly was known as the Dental College, and is now recognized as the Dental Faculty. Otherwise, the estimates are approximately the same as in the past.

In addition to the statutory grant of \$500,000, the university is asking the government for \$1,000,000.

In his review of the estimates Premier Ferguson conferred with Rev. Canon H. J. Cody, Chairman of the Board of Governors of the university, and T. A. Russell, Chairman of the Finance Committee.

Minutes of the Fourth Annual Convention of the Ontario Dental Nurses' Alumni Association

HELD IN THE KING EDWARD HOTEL, TORONTO, ONTARIO, ON
MAY 17, 18 AND 19, 1926

There were eighty-five registered delegates.

Sessions were held in Room G. The first session opened at 11.00 a.m. on May 18th, with the President, Miss Gertrude Whitehead, in the chair. The speaker was Mrs. A. M. Huestis, whose subject was "Some Public Health Interests."

"As you get older you become more efficient in looking back than in looking forward, and your mind is clearer on the past than on the present. I think the past teaches something of the future. By the study of history one learns where to go forward.

"If a group sets out to accomplish something, it never knows where it will end. Quite a few years ago a group of both men and women, who were interested in certain public schools in this city, raised a fund to enable them to hang pictures on public school walls. We could not buy all originals, but we got some originals and some good copies, of ultra good pictures, world accepted pictures, and it was a very great pleasure to have the boys and girls come and ask to be told all about the different pictures. The pictures were classified and an exhibition arranged for, to which the children were invited. Some children did not come at all and a number who did come were so ill, with colds, etc., that they might better have stayed at home.

"One little thing leads to another. We tried to find out why the children did not come. Most of them were unwell. It is sometimes a trivial thing like that that starts a much more important thing. The fact that so many children were too unwell to come to our party started the work of the Home Economic Association, in which we talked and studied about different things that would improve the homes throughout the city and country generally.

"That group sent me to the Local Council of Women, and in time I became Public Health Convenor. The first need was the consideration of what had been learned in the smaller group. Something was needed to fit the children so that they would be well enough to come to any parties held in the schools for them. It meant several years of study on what would be the outcome of such a thing if we succeeded in getting medical inspection established.

"The late Mr. John Ross Robertson was deeply concerned about the necessity of having the work started. He had made a two years' effort to accomplish it. One day he said: 'I have tried to do this for two years and have not been able to do it, but I believe that where I have failed you will be successful. I want to make this offer to you, if you succeed in getting medical inspection in the schools in this city I will pay the salaries of the nurses to be attached to the schools for a whole year.'

"Some time after that we came to the happy night when we had succeeded in getting a man on the floor of the Board of Education to move a resolution to establish the principle of having medical inspection in the Toronto schools. We took a deputation of women and packed the place, and put forth our arguments. The resolution passed.

"We accepted the principle that the work should be done under the Department of Health rather than the Department of Education. Just at that time we thought of two outstanding features that would be necessary to a competent medical inspection of the schools. The children's eyesight must be attended to, some of them could not see what was written on the blackboard, and they must have dental inspection.

"Shortly after that the Dental College conferred and were kind enough to ask one or two women into the conference, as to how dental inspection could be carried out. They recognized that it had to be done.

"We had a volunteer survey made and found that between 50% and 60% really needed medical care of some kind, which included the teeth.

"Of course, things could not end there. You recognized at once that if children were to be kept well they must have legitimate recreation, and this could only be ensured by means of supervised playgrounds. We found that we wanted a Playground Association. We got a board of men and women and struggled for about two years without accomplishing anything. Then we found that we needed an opportunity to make a show of ourselves. If you can visualize something like a picture to people you get them to realize what you want them to see. We procured a square of ground behind the Manufacturers' Building in Exhibition Park. On Labor Day we had eight supervisors directing the playground, and in that one day 150,000 juvenile entries. Not all different ones, if the same child went in twice it was counted twice, but that was the number of entries.

"Following the convening in this city of the International Council of Women, the McCormick family put up a sum of money, of several thousands of dollars, the city donated a piece of land on Brock Avenue, and the McCormick Playground was put in operation. Almost simultaneously another piece of land, on Adelaide Street, was procured. Two pieces of ground on King Street which the city had intended to sell were retained as playgrounds, owing to representations made to the City Council as to the number of youngsters who were accustomed to play there.

"Then the babies! They did not have the right kind of milk. It was bought at the grocery store. We inaugurated a fund and procured distributing centres where milk for babies could be had. Dr. Hastings came to those centres and advised the mothers on the care of their babies, for nothing, and I claim that was the beginning of the welfare centres for our well babies all over the city.

"When Dr. Hastings was appointed Health Officer he made a study of the milk question, had dairies visited, and analyses made. Then he studied the water and sewage. And we tackled the water first. When it came to the water we got some enthusiasm because people were having typhoid and could be roused on that side of the question.

"The Board of Control was approached on the subjects of pure water and sewage disposal, a vote was taken on June 25th to authorize the expenditure of some hundreds of thousands of dollars and passed by an overwhelming majority.

"We are trying at the present time to do something for our mental defectives. We have been talking for the last twenty-five years for farm colonies and have not yet arrived where we have them. We know it would be expensive, but it is more expensive to leave the question untouched.

"Another piece of work is Social Hygiene Work. A lot of feeble-minded people are immoral and a lot are taken advantage of by unprincipled people.

"Since 1919 we have been able to extend the whole work of Social Hygiene right across the continent. We now send out from twelve to thirteen hundred booklets in a month on Social Hygiene. We feel that we are facing the facts of life as we should face them."

A vote of thanks was moved by Mrs. Charles Stone (Marjory Meadows, 1920 class).

A complimentary luncheon was provided by the National Refining Company, at which Mr. McTavish acted as host. Miss Whitehead acted as chairman during the programme. Mrs. Beth Arnott Ellis and Mr. Doddington each sang a solo and were both enthusiastically encored, to which they generously responded. The address was given by Judge Mott, who was introduced by Mr. McTavish.

"The entering of the women members of our population into the fields of service in our modern life is not simply a passing incident. It is an evidence of the conditions of the time. It is evidence of a distinct opportunity, and it is convincing evidence that there are some people who cannot avail themselves of opportunities and meet obligations and others who can. Professional men are looking to-day to the young womanhood of our country and asking them to make a definite contribution to the welfare of the world in which they live, a contribution which they have found they could make. All of us have a direct opportunity and a direct responsibility to make the world in which we live a better place to live in, and I recognize that you are filling a place that could not otherwise be filled and are making a particular contribution to modern life.

"We do not live in the world that our mothers and fathers lived in. We do not live the same way, think the same thoughts, have the same viewpoint. We are not privileged to think so quietly and carefully as they did. The radio and the motor car have broken down walls. They have annihilated distance. As we broaden our home we enlarge the community, and as we do that we widen and make more complex the life we live. The life you live is many times more complex than the life your mother and father lived. This is a new world, a new time, a new opportunity. Every growth carries with it opportunities, but it also carries with it responsibilities.

"Think of the great progress which has been made in the medical world. How we have grown. We have lengthened the span of life nearly twenty years in the last few generations, and we have kept alive many people who started life under handicaps.

"The boy of to-day is vastly different to the boy of a few years ago. The boy of to-day sees more, knows more, than ever before. So do girls. Boys and girls to-day have wonderful powers of resource. There is none more resourceful than a boy or a girl. They can get into difficulties and out of them quicker than at any other time in the world. There is no better field to which you can direct your attention than to the boys and girls.

"The complexity of modern society has given us an added difficulty, the problems of the mental complex. If you are going to successfully deal with the patient before you, you must know something about the mental condition of the patient you are going to deal with. Do not forget that many suffer from a mental complex, an idea that is out of harmony with those by whom one is surrounded.

"When you are dealing with people study their mental troubles, and the way to do it is to have a sympathetic listening ear. One of the greatest cures for the troubles of this world is to have someone listen to your story. When you listen sympathetically, lovingly, you have done more than you know. You have provided an outlet. You know the great value of an outlet. You know what it means when there are held under compression physical conditions, such as abscesses. Did you ever stop to think of a mental abscess?

"We all have mental problems, a sense of inferiority or superiority, a feeling that we are different from anybody else, and perhaps we do not adjust ourselves rightly, and perhaps we do not get an opportunity to express ourselves rightly, and because we do not fit in just right and do not get all that we think is coming to us we are likely to get a little bit sore, a little bit disgruntled. You should not suffer from any inferiority complex like that, and you need not if you will just analyze your feelings. Just think out your own power and marshall it. There is no person who knows your power better than yourself, and knowledge of your power will help to settle any sense of inferiority complex you have. Do not be ashamed of what you know and do not be ashamed to say what you know. Knowledge is not power, but the correct use of knowledge is power. When you know and know that you know you need have no fear of your own power.

"Whatever you are doing in life, learn to do it well. When you learn to do it well you can look the world in the face, you will not be afraid of anyone you meet.

"You are going to meet these complexes in other people. There is a wonderful opportunity. By listening to the story that they tell you in an intelligent way and by putting your finger on the weak spot and showing that man or that woman that that is the weak spot, you can turn them away with a new viewpoint. Listen with an attentive ear and you can make a creative suggestion. The careful intelligent touch of a trained person is a mighty factor in construction. The biggest thing in life is to help to adjust. There are those who have the creative fire and the creative vision and they can do things, but that is not given to many of us. The biggest thing in life for the rank and file is the adjustment that we can make. Nature can cure, but you and I can adjust and help nature.

"Seek to make adjustments. They are the things which tell. If you can pass out from your office a patient who will feel the better for having been in contact with you, if you can turn them out into the world from whence they came with a clearer vision, with a broader concept, with a higher ideal, with a more splendid way of meeting life, you make a contribution to life, you justify your existence, and will honor and adorn in a real and practical way the organization with which you are associated."

Miss Bartindale moved a vote of thanks to Judge Mott for his splendid address, the National Refining Company for their kind hospitality, and Mrs. Ellis and Mr. Doddington for their solos.

Miss Whitehead presided at the afternoon session, which was addressed by Dr. Jackson and Dr. McCrum. The subject of Dr. Jackson's address was "X-Ray."

THE DENTAL NURSE AND DENTAL RADIOGRAPHY

The Dental Nurse can be as great an assistance to the dentist in the radiographic branch of dentistry as in any other. In this field the attention to details in technic is just as important as in other branches of laboratory procedures.

The present teaching is that a minimum of fourteen films is used to cover the areas under examination. The reason for the use of fourteen or more films is for a minimum of distortion of length as well as breadth of the individual teeth. The use of the but ten films necessitates a marked distortion of either cuspid or bicuspid teeth due to the curvature of the dental arch. In order to lessen still further the tendency to distort the tooth image in the film place the film in the patient's mouth with as little bending as possible. Be particularly careful not to bend that portion of the film upon which the image of the tooth in question is to be registered. In certain areas such as the first bicuspid, the cuspids and lateral incisor it is necessary to bend one corner of the film, but this will permit the registration of the indicated tooth with no distortion, the purpose of dental radiography is to obtain as nearly accurate an image of the hidden structures as possible and you can readily understand that bending of the film will produce a result similar in many cases to a person standing before one of the trick mirrors in an amusement park that distorts a figure entirely out of correct shape.

One of the first principles of radiographic technic is cleanliness. This includes not only the hands but also the films, the loading bench and the entire dark room. The presence of dust upon the surface of the film will not only change the appearance of it, but will interfere with a careful interpretation. Dust particles can be embedded in the emulsion either before development or blown on the moist surface while drying. The hands should be dry during handling, as otherwise the finger prints will be registered and interpretation interfered with.

Some patients are easily nauseated and others think they are. The former can usually be handled by instructing them to breathe rapidly and shallowly through the mouth while the film is in the mouth. The use of the Bolin film in these cases is also frequently helpful. The latter type of patient is the most difficult to deal with. They will struggle and attempt to the best they think they know how to aid you, but this only seems to increase the nerve reflex. It is only by appealing to their intelligence that favorable results can be obtained. The use of suggestion is of value. Point out that it is a nerve reflex induced by dread of fear and that we expect such difficulties with children and persons of low mentality, but that an educated person is merely permitting his imagination to run wild.

One of the most common errors that is noticed is the tendency to over-expose or over-develop the film. It is difficult to distinguish between the two unless one particular type of film is used. The over-exposure of a film results in a great loss of detail which, if present, would aid in intelligently interpreting the radiograph. The over-development of a film produces a similar result, but this can be overcome many times by "reduction" or chemically treating the film to make it more nearly normal

in appearance. The latter process takes time, however, and special chemicals need to be used. I prefer to use the "Buck" film because of its metallic border which registers a clear surface about the body of the film, if it has been properly exposed. If there has been an over-exposure the border will not be clear and translucent, but will be darkened according to the degree of over-exposure. If the film has been over-developed the border will be clear, but the body will be darkened. If one will but study the detail of correct timing a great deal of trouble in interpretation will be overcome, and the time necessary for "re-takes" of the same area will be saved.

The next step is the process of development. This should be done with fresh chemicals mixed accurately. The *exact* quantities of the different agents used is essential to obtain good radiography. The manufacturers of the different preparations used in development do not put the formulas on their labels to be followed merely approximately, but instead they should be followed exactly. The temperature of the solutions is important. If it is possible to keep the solutions surrounded with running water at a temperature of 66 to 68 degrees F. the best results will be obtained, especially if the time the film is kept in the developer is timed rather than assumed by visual examination of the film before the safe-light. If running water is not available then the washing of the films is best accomplished by changing the water at least six times during a period of twenty to thirty minutes with stirring of the film in the water as much as possible. The film should be dried in circulating air.

The "safe-light" used to illuminate the dark room should be of such a type that an unwrapped, unexposed film with a small coin placed upon it can be exposed to its light for a period of at least twenty minutes without registration of the coin after the film is developed.

The unused films should be kept in a metal box which is impervious to the X-Ray, as otherwise they may be fogged and rendered unfit to use.

Many dentists still ask the assistant to hold the film in the patient's mouth while the exposure is made. Do not consent to this practise, as while the dosage is small there is a cumulative effect that will be uncomfortable if not disfiguring and dangerous. It may seem as though one could be too particular on this point, but I assure you that if one is really trying to look after one's best interests that it is impossible to be too careful in this instance at least. Also in examining patients do not give more than a total of six hundred milli-ampere seconds for X-Ray dosage to any one area within a period of two weeks. It is impossible to state what the limit of tolerance each individual has to these radiant forces with which we are dealing, but using the average dental machine and the usual distance the above figures are to be accepted as a safe limit.

In closing I will simply reiterate my previous statement that I consider a nurse justified in refusing to expose any portion of her body to the rays except in those cases where it is impossible for the patient to hold the films, and there is no relative or friend accompanying the patient who can hold them instead. The cumulative effect is so insidious in its action and so delayed in appearance that the harm is done before it can be noted.

A vote of thanks was moved by Miss Knox.

The subject of Dr. McCrum's address was "Oral Hygiene."

"Dental nurses should be prepared at all times to give out information about oral health.

"Three months before birth the teeth start to grow. At birth the crowns of the first teeth are fully formed. The health of the teeth throughout life will depend upon the nourishment the mother had before the child was born. The six year molars start to grow before birth but do not come out for use until the child is six years old. When the child is six months old it will have two bottom teeth, and when it is two and a half years old it will have all its first teeth.

"The first teeth consist of five on each side both upper and lower. First teeth are as essential as second teeth."

Dr. McCrum showed lantern slides which illustrated the growth and condition of the teeth at various states and ages: $5\frac{1}{2}$ years, 6 years. "As the six year molars come in the child begins to lose its front teeth. The six year molars are the main chewing teeth for a number of years." $7\frac{1}{2}$ years, 11 years and 13 years. "At the age of thirteen all the second teeth are in place and fully developed."

Dr. McCrum then showed some slides illustrating abnormal development.

"The time to correct irregularities is between the ages of five and eight. The younger you get started, the easier it will be to correct faults. More can be done in months early in life than in an equal number of years later on.

"If the first teeth are correct, the second teeth will be the same, invariably. The first teeth are the guide.

"Sound healthy teeth depend upon three things: Nutrition, cleanliness and dental care.

"Nutrition: Milk, leafy vegetables, whole grains, fruits, natural sugars.

"Cleanliness: Clean food must be chewed by clean teeth, or it will not be clean when it goes to the stomach. 95% of cavities in child life begin on the grinding surface." Dr. McCrum showed slides illustrating the correct use of the tooth brush, and stated that the habit of brushing the teeth twice a day should be established as early as possible.

"Dental Care: The time to begin dental care is when a child is two and a half years old. The teeth should be cleaned and examined by a dentist every three months."

A vote of thanks was moved by Miss Wiggins.

On May 19th the morning session opened at 10.45, with Miss Whitehead in the chair.

Miss Edith Macpherson Dickson, Reg. N., Past President of the Canadian Nurses' Association, and of the Registered Nurses' Association of Ontario, addressed the meeting on the subject of "The Value of Organization to Nurses."

In her opening remarks Miss Dickson congratulated the Alumnae of the School for Dental Nurses upon their early organization and upon the enviable place the Dental Nurse has made for herself, not only in the profession but in the community as well.

She stated that the Dental Nurse was not now considered a luxury but a necessity in the dentist's office; that many patients, for obvious reasons, hesitated nowadays to go to a dentist's office for treatment where a nurse was not employed. The importance of the Dental Nurse in the field of public health work was also emphasized.

Out of a wide experience the speaker was able to point out the many advantages of organization to such a group as our own in maintaining high standards of efficiency and education not only for ourselves but for those who may enter the profession.

The value of Annual Refresher Courses for Nurses was stressed and the plan for such courses as had been employed by the Registered Nurses' Association was outlined.

In conclusion Miss Dickson said: "In your choice of officers for your organization you should be very wise, and when you have elected them to office it is your duty to support them to the last ditch. You may not always agree with their way of doing things—they may even be a disappointment to you—but never forget that you are responsible for their being in office. You believed them capable of guiding the affairs of the Association and of representing you, therefore you cannot but share the responsibility. Make the various offices of your Association positions so much to be desired that every member of the Association will be anxious to qualify for office and to be a proud occupant." The nurses were urged to continue their loyal co-operation with the dentists, not only along curative lines, but also in the prevention of disease."

A vote of thanks was moved by Miss Rose.

The last session was held in the afternoon, Miss Bartndale in the chair. The address was given by Dr. Molt, whose subject was "Sterilization."

There is the old adage that "Cleanliness is next to Godliness." In Surgery, cleanliness comes first. A thing which may be clean is not necessarily surgically clean. A towel may be direct from the laundry and yet not surgically clean. Therefore the untrained assistant—the one who has not had hospital training, must learn first of all what "sterile" means, the steps to obtain positive sterilization and the maintenance of asepsis.

I am speaking in greatest measure from the standpoint of the man doing oral surgery, but all the points to which attention is drawn may profitably be applied by the operator in general dental practice.

The dental equipment manufacturers have done a great good in bringing out sterilizers and dental equipment of a modern nature adapted to sterilization. The modern dental office can provide for surgical cleanliness if the man who is doing the work and his assistants are conscientious in that regard.

Sponges, instruments, towels, and everything used must be really surgically clean. We may divide the precautions with regard to sterilization into two sections:—precautions before operation and precautions during operation. Before operation we must know that the office is clean. The office operating room must be just as clean as a hospital operating room. The chair and tables must be as clean as soap and water and scrubbing can make them. The instruments that are to be used are carried through the sterilizer, and boiled for twenty minutes. The towels, sponges, etc., are put through the autoclave and kept there for the requisite period under steam pressure. Then they are kept clean, being wrapped, by not being opened until used.

The hands of the operator are scrubbed and if gloves are used they should be sterile. The patient is covered with a sterile sheet and sterile towels are used. The part of the face that is exposed is washed with

alcohol. Then, the mouth having been cleansed with an antiseptic, the part to be operated on is washed with iodine and blocked off from the rest of the mouth with sterile gauze.

And now the operation. All instruments have been sterilized and laid out upon sterile tables, covered with sterile cloths. The assistant who is to assist has sterilized her hands. All through the operation there is one thing to be watched—the avoidance of contamination. Nothing that is being used may be brought into contact with anything that is not sterile. If an instrument falls to the floor, it must again be sterilized. If you have occasion to turn to a cabinet to take something out, you have broken your chain of sterilization, and must repair the damage before proceeding. If you take out an instrument not recently sterilized it must be sterilized before being used. In short, a definite line of demarcation must be drawn between “sterile” and “non-sterile.”

If you once get that conception, you will never forget it. Anything not included in the preparations is not sterile, and it must be sterilized before being touched or used.

Go to a local hospital and ask to be permitted to observe a surgeon carrying through an operation. Present day aseptic surgery is only a product of about thirty years. Before that time we only had antiseptic surgery. The operator of the present day however who fails to observe the accepted and utterly sensible rules of surgical cleanliness is not alone “old-fashioned”—he is criminally careless.

A vote of thanks was moved by Miss Julian.

The Nurses' Convention closed on Wednesday afternoon with an afternoon tea musicale, given by the Goldsmith Brothers, in the Blue reception room in the King Edward Hotel. Miss Gertrude Whitehead and Miss Mildred Chanonhouse received, assisted by the social committee. Miss Pearl Bartinda'e and Miss Luella Lapp poured tea. A splendid program was given by Mrs. J. B. Costello, Major Norman Alexander and Mr. Harry Hunter, assisted at the piano by Miss Dever.



SOCIETIES

Programme of Canadian Dental Association Convention, Halifax, N.S., August 16, 17, 18 and 19, 1926

(Hours given are Daylight Saving Time)

MONDAY, AUGUST 16TH

- 9-11—Registration, Gymnasium Building, Dalhousie University.
11.30—Opening of Convention and Invocation by
Addresses by Lieut.-Governor J. C. Tory; Premier E. N. Rhodes;
Dr. A. S. Mackenzie, President Dalhousie University; Dr. W. C.
Oxner, President N. S. Dental Association.
Reply to addresses of Welcome—Dr. A. W. Thornton, Dean McGill
Dental College, Montreal.
1 p.m.—Hodge Podge, Studley, University Grounds.
Musical Programme.
2.30—Address, Dr. G. K. Thomson, President Canadian Dental Assn.
Report of the President Dominion Dental Council.
Report of the C. D. A. Committees.
Other business.
4 p.m.—Exhibits—Gymnasium Building.
8 p.m.—Entertainment—Waegwoltic Club.

TUESDAY, AUGUST 17TH

- 9-11—Dr. I. H. Ante, Toronto—Lecture Clinic, Crown and Bridge and
Inlay work.
Dr. W. E. Cummer, Toronto—Lecture Clinic, Partial Dentures.
Dr. W. G. Bridge, Boston — Porcelain as Applied to Modern
Dentistry.
Dr. W. H. Hoyt, Boston—Clinic, Full Dentures.
11-1—Dr. Biley Smith, Philadelphia. Clinics on the Wadsworth Articulator.
Dr. W. B. Amy, Toronto. Clinics on Infiltration and Conduction
Anaesthesia.
Dr. Woodworth, Chicago. One Piece Casting Technic Fixed
Bridgework.
Dr. Akers, Chicago. One-piece Casting Technic Removable
Bridgework.
Dr. A. E. Webster, Toronto. Table Clinic, Drug Combinations for
Dental Tissue Therapy.
2.30—Paper, Dr. I. H. Ante, "Fundamental Principles of Bridge Pros-
thesis"; Dr. E. Alan Lieban, New York, "The Importance of
Diagnosis in Relation to the Successful Treatment of Pulpless
Teeth."
3.15—Dr. H. A. Osgood, Boston, "Principles of X-Ray Diagnosis"; Dr.
J. Lowe Young, New York, "Some Ethical Phases of Practice."
Read by

Dr. F. C. Husband, Toronto, "Copper Amalgam Technic for Root Canals." Read by Dr. W. H. H. Beckwith.

4 p.m.—Paper: Dr. H. J. Baker, Boston, "Amalgam Technic"; Dr. F. J. Conboy, Toronto, "Dental Services and National Advancement."

4.30 p.m.—Excursion—Halifax Harbor.

8.30 p.m.—Informal Dance and Cards—Royal Nova Scotia Yacht Squadron.

WEDNESDAY, AUGUST 18TH

9-11—Dr. I. H. Ante, Repeat Tuesday morning Clinic.

Dr. W. E. Cummer, Repeat Tuesday morning Clinic.

Dr. W. G. Bridge, Repeat Tuesday morning Clinic.

Dr. W. H. Hoyt, Continuation of Full Denture Clinic.

11-1—Dr. Biley Smith, Repeat Tuesday morning Clinic.

Dr. W. B. Amy, Repeat Tuesday morning Clinic.

Dr. Woodworth, Repeat Tuesday morning Clinic.

Dr. Akers, Repeat Tuesday morning Clinic.

Dr. A. E. Webster, Repeat Tuesday morning Clinic.

Dr. H. A. Osgood, Black Board and Demonstration Clinic, X-Ray Diagnosis and Technic.

Dr. H. J. Baker and Dr. Macleod, Table Clinic, Amalgam Technic.

2.30—Dr. T. P. Hyatt, New York, "An Operative Procedure for Preventive Dentistry."

Discussion opened by

Dr. D. P. Mowry, Montreal, "Pyorrhoea and the General Practitioner."

3.15—Dr. W. B. Tracy, New York, "A Consideration of Gold Inlays as a Means of Restoring Lost Tooth Structure."

Discussion opened by

Dr. T. P. Hinman, Atlanta, "The Present Status of the Pulpless Tooth or Present Day Practices."

Discussion opened by

8 p.m.—Band Concert and Public Health addresses in the Halifax Public Gardens.

THURSDAY, AUGUST 19TH

9-11—Dr. I. H. Ante, repeat Tuesday morning Clinic.

Dr. W. E. Cummer, repeat Tuesday morning Clinic.

Dr. W. G. Bridge, repeat Tuesday morning Clinic.

Dr. W. H. Hoyt, continuation of Full Denture Clinic.

11-1—Dr. W. B. Amy, repeat Tuesday morning Clinic.

Dr. Woodworth, repeat Tuesday morning Clinic.

Dr. Akers, repeat Tuesday morning Clinic.

Dr. A. E. Webster, repeat Tuesday morning Clinic.

Dr. H. J. Baker and Dr. MacLeod, Table Clinic, Amalgam Technic.

Dr. D. P. Mowry, Prophylactic Clinic.

12—Paper, Dr. Harry S. Thomson.

2.30—Golf Tournament at Ashburn Golf Club.

Other entertainment will be arranged for those who do not play golf.

7 p.m.—Dinner Ashburn Golf Club for those playing in the Tournament and any others attending the Convention who wish to attend.

Organization of Canadian Dental Golf Association.

Special entertainment for the ladies in addition to that featured above is being arranged.

University of Toronto

FACULTY OF DENTISTRY ANNUAL DENTAL PRACTITIONERS' COURSE, SEPTEMBER 13TH-18TH, 1926 (INCLUSIVE)

All ethical Dental Practitioners are most cordially invited to spend one week in the intensive study of modern procedures in various branches of dentistry. Fee for course, \$25.00, payable to the Bursar, University of Toronto.

The course will be held the week following the Canadian National Exhibition.

Registration form will be sent upon application to the Dean.

Faculty of Dentistry, University of Toronto,
Dental Building, Toronto, 2.

Public Health Day in Ontario, October 20th, '26

Present indications point to a most successful public dental health activity on October the 20th of this year, when the Ontario Dental Health Day which is being organized under the authority of the Ontario Department of Health will be held. The Ontario Dental Association at its Annual Convention decided to provide free dental examination and advice for all the people of Ontario who request it on that day and the arrangements for this service in all parts of the province are well under way. In some of the larger communities, central clinics will be held, while in the smaller places the dentists will make the survey in their own offices.

Dentists who are members of service clubs and welfare organizations are arranging to have addresses on Mouth Health given at meetings held during the week and mass meetings of school children are being arranged for the afternoon of October the 20th, when pictures dealing with oral hygiene will be shown and talks given by dentists and physicians. In many places a local newspaper, service club, or some public spirited citizens are contributing prizes to be given to the children writing the best essays on the material presented at these meetings.

The Ontario Motion Picture Bureau has kindly offered to contribute 250 reels of motion picture films. These will be sent out without charge by the various exchanges and shown in the theatres in all parts of the province. The local dentists are getting in touch with the theatre managers and making sure that a request will be sent in for one of these films.

Radio messages will be sent out from a sufficient number of stations to cover the entire province, and the newspapers that are willing to give space will have interesting and instructive press articles sent to them.

A large amount of publicity will be provided by the various manufacturers of mouth toilet products, these firms having promised to give their advertising space for this purpose. The Ontario Retail Druggists' Association and grocery and fruit stores connected with the Ontario Retail Merchants' Association are providing suitable window displays and free publicity is being given by many of the trade journals.

See Canada First

The Canadian Dental Association will be held in Halifax, N. S., beginning 16-19 August.

A rail and water tour of Eastern Canada has been planned, and the following itinerary with rates and schedule will be the Official Route. On the return trip there are a number of routes marked with rates, and these should be chosen before starting. The excursion will leave Toronto by the steamer TORONTO of the Canada Steamship lines for Kingston, the 1000 Islands and the rapids to Montreal.

SCHEDULE OF TRIP—GOING JOURNEY

Lv. Toronto	3.00 P.M.	Sunday,	Aug. 8th
Ar. Montreal	5.45 P.M.	Monday,	Aug. 9th
Lv. Montreal	6.35 P.M.	Monday,	Aug. 9th
Ar. Saguenay	9.30 P.M.	Tuesday	Aug. 10th
Lv. Saguenay	6.30 A.M.	Wednesday,	Aug. 11th
Ar. Quebec	7.30 P.M.	Wednesday,	Aug. 11th
Lv. Quebec	12.05 A.M.	Friday,	Aug. 13th
Ar. Halifax	10.50 P.M.	Friday,	Aug. 13th

(Standard Time)

RATES

1. Toronto to Halifax and return, steamer from Toronto to the Saguenay and return to Quebec, rail to Halifax, thence rail to Digby,



In the Upper Town, Quebec City, P.Q.

steamer to St. John, rail to Quebec (via Moncton or Fredericton), steamer to Montreal, rail to Brockville, and steamer to Toronto.

\$114.90, including meals and berth on Can. S.S. Lines.

\$13.10, cost of lower berth, Quebec to Halifax and return.

2. Same as route 1 on going journey, and on the return as far as St. John. Thence rail direct to Montreal, rail to Brockville and steamer to Toronto.

\$117.45, including meals and berth on Can. S.S. Lines.

\$6.55 for lower berth Quebec to Halifax.

\$4.80 for lower berth St. John to Montreal.

3. Same as route 1 on going journey, thence rail to Yarmouth, steamer to Boston, steamer to New York, steamer to Albany, rail to Montreal, rail to Brockville, and steamer to Toronto.

\$126.02, including meals and berth on Can. S.S. Lines.

\$6.55 for lower berth Quebec to Halifax.

\$3.00 to \$6.00 for rooms Yarmouth to Boston.

\$1.75 to \$10.00 for rooms Boston to New York.

\$3.75 for lower berth Albany to Montreal.

4. Same as route 1 on going journey, thence rail to Yarmouth, steamer to Boston, steamer to New York, and rail to Toronto.

\$114.42, including meals and berth on Can. S.S. Lines.

\$6.55 for lower berth Quebec to Halifax.

\$3.00 to \$6.00 for room Yarmouth to Boston.

\$1.75 to \$10.00 for room Boston to New York.

\$4.50 for lower berth to New York to Toronto.

5. Same as route 1 on going journey, thence rail to Yarmouth, steamer to Boston, rail to New York, and rail direct to Toronto.

\$115.32, including meals and berth on Can. S.S. Lines.

\$6.55 for lower berth Quebec to Halifax.

\$3.00 to \$6.00 for room Yarmouth to Boston.

\$4.50 lower berth New York to Toronto.

6. Same as route 1 on going journey, thence rail to Yarmouth, steamer to Boston, rail to Philadelphia and direct to Toronto.

\$119.25, including meals and berth on Canada S.S. Lines.

\$6.55 lower berth to Halifax.

\$3.00 to \$6.00 for room Yarmouth to Boston.

\$4.50 lower berth Philadelphia to Toronto.

A group of dentists on an excursion of this kind will be able to become better acquainted and enjoy the pleasure of congenial company. To visit the home of self-government, for it was in Halifax in the year 1758 was convened the first representative assembly to govern in the British Empire overseas.

A motor trip through the land of Evangeline and the Annapolis Valley from Halifax will be both interesting and educational. Any further information may be had from

C. ANGUS KENNEDY,
86 Bloor St. W., Toronto.

On and after July 1st, 1926, the ASH-TEMPLE CO., LTD., 243 College Street, Toronto, Ontario, Canada, will act as the Canadian Distributors for the Wernet Dental Manufacturing Company. The Wernet Dental Mfg. Company are proprietors of "Dr. Wernet's Powder for False Teeth," "Dentu-Creme" and "Dental Plate Brush." The Canadian office is located at 172 John Street, Toronto.

Golf for Dentists

About eighty of the members of the Ontario Dental Association, which held its annual convention in Toronto last month, participated in the annual golf tournament of the Association at the Thornhill Club and remained to dinner in the evening. There were a number of prizes for various events. Dr. MacSheldon turning in the low gross of the eighteen-hole round, with an 81, while Dr. W. W. McEwen had the best net, with $94-25=69$. The other prize-winners were:

First Flight—Best gross, Dr. Alex. Elliott, 83; best net, Dr. J. H. Duff, $88-18=70$; second net, Dr. Irwin, $88-15=73$, and Dr. Broom, $85-12=73$.

Second Flight—Best gross, Dr. Eric Jordan, 93; best net, Dr. Broadworth, $95-25=70$; second net, Dr. H. Murphy, $99-28=71$; third net, Dr. Revelier, $102-30=72$.

Kickers' prizes—Dr. Trotter and Dr. Field, tied.

Sealed holes—High scores, Dr. Trotter and Dr. Field.

Birdie prizes—Dr. Sheldon, Dr. Palmer, Dr. Elliott, Dr. Canning and Dr. Paul.

Dr. J. H. Duff was chairman of the committee in charge of the tournament.

University of Montreal

FACULTY OF DENTAL SURGERY

GRADUATES FOR 1926

Georges Larue, Alphonse Girouard, Gaston Bernard, Gaston Dionne, Henri Gervais, Adrien Contré, Antonio Poirier, Antonio Landry, Ernest Daigle, Gaston Vandal, Elie Dorion, Charles Richard, Albert Laferriere, Jean Smith, Gérard Baillargeon, Edgar Galarneau, Antoine Latour, Armand Boisvert, Ernest Laurence, Emeril Poirier, Marcel Tessier, Alphonse Décarie, Charlemagne Labelle, Jean Chartier, Emile Balthazar, Télesphore Boucher, Jules Lafrénère, Alfred Masson, Albert Moisan, Roland Geoffrion, Paul Allard, Aimé Caza, Jules Nadeau, Aristide Parent, Lucien Perrault, August Dubé, Joseph Brisebois, Léonard Duguay, Jean Lazure, Errol Delaney, Léonce Lessard, Hermidas Poirier, Gustave Charland, Camille Dumesnil, Martin Rondeau.

Officers of the Eastern Ontario Dental Society

President—E. H. Wickware, Smiths Falls;
 Vice-President—C. H. Jeuvet, Ottawa;
 Secretary-Treasurer—S. G. McCaughey, Ottawa.

Dental Advertising

Resolutions by Medicine Hat Dental Society

Moved by Dr. Allison Smith, seconded by Dr. McKee:

That the members of the Medicine Hat Dental Society in order to uphold the dignity of the dental profession, go on record as follows:

That all dental signs be of the following maximum size, viz., eighteen inches long by seven inches wide, and containing the name of the practitioner and the word "dentist" only, and that each dentist be limited to one sign. The sign preferably to be of brass with black letters, and that copies of this resolution be sent to the secretary of the Provincial Board of Alberta, the Oral Health Pub. Co., the Dominion Dental Journal and the Items of Interest.

Moved by Dr. Moore, seconded by Dr. MacDonald, that the above resolutions be amended to read:

That all signs whether of brass or window lettering contain only the name of the dentist and the word "Dentist," or letters equivalent, and be of a size considered well within the code of ethics of the profession, and that any other form of advertising be considered unethical and that copies of the amendment be sent to the secretary of the Provincial Board of Alberta, Oral Health Pub. Co., the Dominion Dental Journal and Items of Interest. Carried.

The American Academy of Periodontology

TO THE MEMBERS:

The program prepared by your committee for the coming meeting of the Academy is a splendid one and gives the members an unusual opportunity to hear the representatives of other nations, who are vitally interested in Periodontia. We expect many of the foreign delegates to attend. With the co-operation of the Academy members we undoubtedly will have some wonderful discussions. The Thirteenth Annual Meeting should be one long to be remembered. A brief outline of the program follows, and the complete program will be mailed you in a short time.

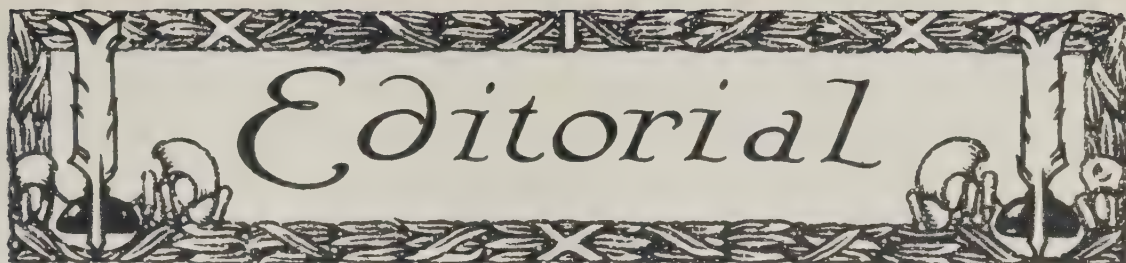
Francis Farrand, Paris, France—"Dental Hygiene."

James Gregory O'Neill, Windsor, Ontario, Canada—Presenting a paper of Dr. Harold K. Box of Toronto, on "Histo-pathology of one of the basic lesions of Chronic Periodontitis; Rarefying Pericementitis Fibrosa (Box)."

Clara M. Davis, M.D., Cleveland, Ohio—"The Self-Selected Diet of a Newly Weaned Infant." A Study in Nutrition.

James Kendall Burgess, New York City—"The Mechanical Significance of Periodontal Diseases and a Consideration of Some Post Operative Measures for Reorganization and Conservation."

The total registration in the Faculty of Dentistry University of Toronto, is slightly less than last year.



Editorial

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A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.

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ONTARIO—S. Stewart Crouch, D.D.S.

Vol. XXXVIII

TORONTO, JULY, 1926

No. 7

Maintenance of Dental Societies

At the recent meeting of the Eastern Ontario Dental Society a resolution was introduced to provide financial assistance to provincial and national associations through the more vigorous local societies. Immediately arose the question of asking the legal dental bodies for assistance to the national body. It was pointed out that those who did not attend dental societies at all were benefited by the actions or results of those who do attend and therefore should be compelled to subscribe to their assistance through the legal bodies. Another question arose as to whether dental boards had the legal authority to make donations to dental societies or not. Under the old Dental Act of Ontario the Board was not permitted to make such donations. It may be so in other provinces.

There isn't any doubt but dentistry in Canada is helped by the actions of the national body. Not only is this true, but also the Canadian nation is helped, consequently both the individual dentist and the Canadian government should subscribe to its assistance.

Somehow or other dental organizations are like religious organizations—give them an assured existence and they immediately go to seed. A virile organization will make its own way. But Canada is such a large country and so sparsely settled that it is economically impossible to have a large attendance at any one point every two years. It might be worth

while to have annual meetings of British Columbia association, the society of Western Canada, Ontario and Quebec, and the Maritimes, and a meeting of all four in some central point every five years. Having an annual executive meeting to do national business.

Small Majorities

Parliamentary conditions at Ottawa have again and again brought forth the expression "There should be a sufficient majority behind a government to insure stability of administration." The cogency of such a remark depends upon what is a sufficient majority. A government which has a sufficient majority to be independent of the private member has too much of a majority. Ten per cent. of any house should control its actions, or at least make them hazardous. One has only to look at conditions during the last session at Ottawa and doubtless they indicate what has occurred many times before. More active, useful and courageous legislation has been passed during this brief session than any other session since Confederation. Why, because the government had to act to hold its slim majority, and as soon as it undertook to whitewash one of its own members it lost its majority in the house, and its successors lost their majority when they undertook to carry on government in violation of the traditions of parliament. There is no doubt but if either party had a sufficient majority the minister in question would have been exonerated and on the other hand the shadow administration would still go on violating parliamentary practice. So why have a large majority. The answer is only to protect vested interests. If an administration knows that six to ten of its members can make its actions hazardous they will walk circumspectly, but if they can snap their fingers at even fifteen or twenty members one may be sure that everything will go on as of before.

Smuggling has been going on through at least two administrations, and nothing done by either until the majority in the house could be changed by only a few votes. One party saw a chance of defeating another, hence the investigation. This would never have occurred if the King government had thirty or forty of a majority. Two or three members or a dozen voting against their party would only make black sheep of themselves, while if they could control the house if inaction were persisted in then they would become heroes provided their motives were praiseworthy. Few men elected to parliament who hold a government's actions in their hands would violate the traditions of British institutions for personal gain. Their actions become too well known even for no other or higher reasons. They would refrain from even the appearance of wrong doing.

The tariff has always been an electionary dodge by both parties until this session, when something had to be done to save their skins, hence there was action.

Let us have a small majority in the next parliament so as to insure action on the questions of the day and put questionable practices within the power of a few honest souls who can at least throw a scare into the camp.

All our national extravagances have been initiated by governments with huge majorities.

To say that a government should have a large majority so as to be independent of its wicked members is an insult to parliamentary institutions and to all members of parliament.

Orthodontia vs. Dominion Dental Council

Modern dentistry contains no subject on as good a basis as Orthodontia. It has its own schools, its own special teachers of world renown; and its own literature, text, and magazine. The general practitioner can turn to his confrere, the specialist in Orthodontia, and get genuine help, of great value in his practice. In preventive dentistry this specialist is working wonders. In the various States it is regarded as of importance, and our Provincial Boards conduct examinations in this subject as an entrance requirement. How about our Dominion Dental Council whose certificate has been accepted by our Provincial Boards without question? Is it considered as of sufficient importance to have a separate paper by a specialist who knows his subject? Examination brings to light the fact that it is stuck on the tail end of a paper in Prosthetics and allowed 25 marks. Mind you 25 whole marks! Much pride should be felt by our Orthodontia specialists when they realize the great concessions allowed by this august body with the misleading title. No wonder Quebec and B.C. grin (figuratively) and wave the certificate of high (?) qualification on its way.

Notes

The I. O. D. E. of Saskatoon has installed a dental equipment at the Baby Clinic.

The standard of dentistry is such that we may have just as good teeth as we Chews.

The Alumni Federation of the University of Toronto will award two scholarships to the faculty of dentistry. The three principal conditions of award will be: 1, standing in course; 2, need of assistance; 3, relationship to active service during the war.

While the President of the British Dental Association was declaiming that decay of the human teeth was quite a modern complaint there was being exhibited at the California Dental Society two specimens of tooth decay, one 500,000 years old and the other 100,000.

Officers of the Seventh International Dental Congress:

President, W. H. G. Logan, Chicago; Vice-Presidents, H. E. Friesell, Pittsburg, William A. Giffen, Detroit; Hon. Vice-President, S. W. Foster, Atlanta; Secretary General, Otto W. King, 58 East Washington Street, Chicago, Ill.; Treasurer, Henry L. Bauzhaf, Milwaukee.

The man who wakes up and finds himself famous has not been asleep.

Dr. G. M. Phelps, Hamilton, won the Ash Temple Trophy for the year 1925.

No society can be efficient where every sort of duty is assigned to every sort of man.

Ideas and general principles can be communicated by language, technical skill never.

The Seventh International Dental Congress will be held in Philadelphia, August 23-28, 1926.

New members join the Dental Academy, Hamilton: Drs. Morley, Nicholson, Vivian, Williams and Ray.

Dr. J. R. Cruikshank, Vancouver, has been sent to jail for one year for a statutory offence against a young girl.

Applications from dentists are being received by the Board of the Victoria Hospital, London, Ontario, for appointment to the staff.

When we in America build as substantially as they do in Europe our reliance on the machinery of administration will be as little as theirs.—*George Vincent.*

A vote of thanks was tendered Dr. W. G. Thompson by the Academy of Dentistry, Hamilton, for his services to the profession of dentistry and especially to the Academy.

The medical officer of health of Blenheim, Ontario, recommend that a dental clinic be established in the public school and that the provincial Board of Health be asked to take the necessary steps.

Dr. P. McIntyre of North Bay gave a day to treat the teeth of Rutherglen children. He extracted 163 teeth, filled 12, and gave a prophylaxis to several others. The work was organized and done under the Red Cross.

Dr. Davidson, Hamilton, Ontario, sued a patient for fifteen dollars for payment of a denture. It came out in evidence that the denture was guaranteed to be satisfactory to the patient. As it was anything but satisfactory, according to the patient's tale, the suit failed.

The finance committee of the City Council of Winnipeg was addressed by S. A. Blair on behalf of forty dentists who are conducting a free clinic for the poor, each dentist giving his services free. The assistance given the General Hospital for dental treatment was discontinued because of lack of funds. Mr. Blair was asked to lay his project before the committee in writing.

Dr. Hope is the Liberal candidate in Sturgeon, Alberta .

Dr. Wilson of Woodstock gave an address to the U. F. O. members at Norwich, Ontario.

The druggists at their annual meeting passed a resolution limiting the number of drug apprentices.

Dr. Price says that soft coal is a cause of tooth decay in large cities by interfering with the sun's rays.

Miss Florance A. Johnson, B.A., is the first woman to graduate from the Faculty of Dentistry, McGill University.

The Eastern Ontario Dental Association held its forty-ninth annual meeting at Stanley Island, Cornwall, Ontario, June 25, 26 and 27.

The daily press of Halifax are giving good publicity of the coming meeting of the Canadian Dental Association at Halifax, August 16th, 17th, 18th and 19th.

A number of the B. C. dentists were in attendance at a union meeting of British Columbia, Washington, Montana, Utah, Idaho, Colorado and Portland, held in Portland, Oregon.

It is a remarkable thing that the more reasons discovered for the cause of dental caries the more teeth decay. Like cancer every known food is advocated as the cause. Might it not be well to study some of the unknown substances in human foods.

The public health department of Chicago says seven out of ten children in the public schools between the ages of five and seven years have decayed teeth. The department gives the sage advice that parents should develop better teeth in their children.

As Dominion Day passed this year the dentists of Canada had three very important reasons for rejoicing. A return to the two cent stamp, a marked reduction in the cost of motor cars (which dentists think are a necessity as a cure for tired nerves) and cutting of income tax in half. It was well that the report on Customs did not get into the house until this was done.

The Academy of Dentistry, Hamilton, held their annual picnic at Oaklands across the bay, June 23, 1926. Hamilton dentists cannot be accused of following the lead of the U. F. O. in the matter of picnics, or that of Herbert Lennox, M.P. for North York, because long before the latter institutions were dreamed of the sports of Hamilton had their gatherings. Even Dr. McGuire's picnic at Simcoe must admit its second place in point of date of origin.

Toronto dentists used to have a picnic, but for some reason or another it didn't seem to take on. As an institution picnics should be encouraged among dentists, especially for the social aspects.

Dr. J. Bell, Fort Francis, Ontario, was drowned May 3rd in Rainy Lake.

The public health association of Canada states that cancer is on the increase in Canada.

Mrs. Jean Archibald in discussing diet and teeth speaks very highly of the use of milk.

Dr. Aykroyd, Kingston, writes a very interesting article on diet in the Kingston Whig.

The Dentists' Legal Protective Association of Ontario has 696 members and \$4,489 in the treasury.

The King has a new dentist, Mr. Guy Capper Birt taking the place of Sir Harry Baldwin, resigned.

The Franco-American Dental Institute of Montreal is accused of practising as a company which is illegal.

Dr. M. M. Seymour, deputy minister of health of Regina, gave a number of noon day radio talks on Dental hygiene.

The Dental profession of Ontario were the guests of the Board of Directors at Hart House during the Ontario meeting.

Dr. Anthony J. Vince, said to be the first Italian in Canada to receive a dental degree, was tendered a dinner by the Circolo Colombo.

Mrs. A. L. Marshall, Winnipeg, won a fifty dollar prize for an essay on care of the teeth given by E. R. Squibbs & Son. There were 39,974 contestants.

A dental inspector of school children reports the number of children who actually go to a dentist in the following cities:—

Manchester, 62% ; London, 55% ; Birmingham, 45% ; Leeds, 44% ; Liverpool, 27%.

The Gardens committee of Halifax has been asked to put on a special programme of music on the evening of August 18th, during the meeting of the Canadian Dental Association which will meet in Halifax from August 16 to Aug. 20, 1926.

An English writer on dentistry cannot see any justification for cur-retting the sockets of teeth after extraction when the instrument must become infected by passing through the tissue to be removed and carry infection to the sound tissue nature had set up as a barrier.

Dr. J. D. Barnet, dental surgeon, who has been in Teeswater for two years has sold out his practice and equipment to Dr. G. G. McKee, brother of Dr. McKee of Cheslev. Dr. McKee has been at Havelock and will come to Teeswater and take charge the end of the month of May.

The extraction of teeth cannot be depended upon to cure all bodily ills.

Dr. Ante has been delivering lectures in the chief towns of northern Ontario.

Sir George Foster addressed the Ontario Dental Association on the League of Nations.

Dr. Abraham Hoffman, Buffalo, was among the welcome guests of the Ontario Dental Association.

Dr. Hoffman figures out that there are 435,330 children in Ontario who need orthodontic treatment.

Tom Jones was among the honored guests at the reunion luncheon of the Ontario Dental Association.

A pre-historic skull has been found in Cuba by Dr. Weis. It is said to be the oldest skull to be found in the Americas.

The hope of the Dental higher council of Canada is to have a dental director in each province and a federal officer in Ottawa.

Among the honored guests of the Ontario Dental Association were J. Neelands, Lindsay, sixty-four years in practise, Dr. Browlee, Dr. Wilson and Dr. Sparks.

Nearly all teeth with non-vital pulps should be extracted but *nearly all* does not mean all. The *nearly all* applies to posterior teeth which were the seat of an acute infection at one time.

A luncheon was given by the National Refining Company to the delegates of the fourth annual convention of the Dental Nurses of Canada, at the King Edward on Tuesday, May Miss Gertrude Whitehead, President of the Alumnae, presided, and introduced Judge Mott, who gave an interesting address. A delightful program of songs was contributed by Mrs. Beth Arnott Ellis and Mr. Doddington, after which a vote of thanks to the artists and the committee was moved by Miss Pearl Bartindale.

An editorial comment on styles in dentistry by the Chatham Daily News is much to the point. Among other things it says there is little use in now explaining that it is unwise to extract teeth for rheumatism and other chronic diseases since we have been persuaded to follow the style of having them removed. This illustrates the folly of fashions in such serious matters as health. It is really marvellous how sure some people are about so many things. Make soap or plant beans in the right time of the moon and never have a failure or eat codliver oil and never have a decayed tooth or brush your teeth this or that way and never have rheumatism.

Dr. Stanley Cohen has located in Calgary.

Dr. Wilfred Addiwell has taken over Dr. Mulvey's practice during Dr. Mulvey's absence.

Dr. J. E. Rundle, Moose Jaw, attended the meeting of the Ontario Dental Association.

Dr. V. C. Mulvey, of Edmonton, has been called home to England by the illness of his father.

Dr. G. B. Thurston has located in Edmonton and will visit several points during the summer months.

Dr. G. J. Hope, of Edmonton, has broken into Alberta Provincial politics and is running as Liberal candidate for Sturgeon constituency.

The profession learned with sorrow of the accidental death of Dr. T. B. Hill of Calgary. The doctor had been in ill health for some time and had gone East with the hope of regaining his strength. While out hunting Dr. Hill was instantly killed through the discharge of his gun. Dr. Hill was a man of worth and his professional friends in Calgary will miss him.

In an address to the members of the Ontario Public Health Association, Dr. Forbes Godfrey called attention to Dental Health day, October 20th, 1926. At the same meeting the president of the University reported that 92 per cent. of the students entering the University are permitted to engage in strenuous exercise which he thought spoke well of the high standard of the health of the community.

The public health association of Ontario at its final meeting in Toronto in May made the following recommendations.

Calling for the pasteurization of all milk supplies, recommending that the various provincial governments should, with each license plate supplied to motorists, include a card warning of the dangers of carbon monoxide poisoning, reaffirming belief in periodic health examinations and asking that the Dominion Board of Health should consider the development of a plan by which any known indigent case of tuberculosis might be admitted to a sanatorium by a medical officer of health, and that the Provinces should agree to allow some central authority to decide as to residence.

Of the large number of drugs that have been found to be valuable in the practice of dentistry each practitioner uses a group which practice has made him familiar with and he finds them sufficiently efficient to carry on his every day practice but in every office there are always a certain number of reliable drugs that it would be practically impossible to get along without and in this list I would place: the essential oils—cloves and eucalyptus, phenol and creosote, forma cresol, campho phenique, silver nitrate, arsenic trioxide, iodine, alcohol, novocaine, cocaine and adrenalin chloride sol., ethyl chloride and nitrous oxide which is so valuable as a general anaesthetic. These above drugs are practically used every day in almost every operation in the dental office. Other drugs may be used to advantage but the above mentioned are probably the most important.

Dr. O. A. Sproule, who has been in British Columbia for his health, has recently returned to Alberta and is located at Waterhole.

The Alberta Dental Board has decided to repeat the Clinic plan put on in 1925. A sum of money from Board funds was voted for this purpose at the last meeting. Dr. De Forest Davis of Minneapolis is going to cover the route Dr. W. D. N. Moore went over last year, and will visit Edmonton, Calgary, Lethbridge and Medicine Hat. The doctor will put on two or three day clinics in each place on partial denture construction and crown and bridge work. So successful was this plan in 1925 that inquiries are coming in constantly concerning what the Board intends along the same lines for this fall. We can assure the men that a good man has been secured, well recommended from reliable sources, and we feel that a profitable few days can be spent at each centre. The clinics will take place between September 25th and October 9th.

There is often much talk about the value of coarse foods or gritty foods as a means of preventing dental decay. If such advocates would read the investigations as published in the British Journal of the foods of some Central African tribes who eat little else than crushed grains and sweets mashed and cooked and yet have no decay, they would be less sure of their coarse food teachings for preventing caries.

Ontarians Capture Prizes Among 40,000 Contestants

New York, June 9—Ontario contestants in the \$25,000 Educational Contest conducted by E. R. Squibb & Sons for the promotion of dental hygiene captured seven prizes, including the sixth of \$250, which went to N. D. Keller of Chatham, it was announced to-day by Theodore Weicker, Vice-President of the company. Forty thousand persons in the United States and Canada and 25 foreign countries participated in the contest.

Other Ontario winners were: H. F. Hudson, Strathroy; Miles Seeley, Huntersville; Mrs. R. W. Burtoo, Burgessville; each \$50; and Louise Sadler, New Hamburg; William C. Tunnoch, 70 Fourth Avenue, Ottawa, and Lawrence H. Douglass, Napanee, each \$25.

OBITUARY

Dr. Achille A. Pinard, Ottawa, Canada

Mourned by a very large number of sympathetic friends, including members of the Senate, House of Commons, militia, dental profession, sporting circles, and almost every other phase of the city's life, the body of the late Dr. Achille A. Pinard, well-known Rideau street dentist and all round sportsman, who came to his death suddenly on Monday last while on a

fishing expedition with friends, was laid to rest in Notre Dame cemetery this morning, after an impressive funeral service at the Sacred Heart church.

The late Dr. Pinard was beloved by all who knew him for his genial disposition; he held an honored position in his profession as a dentist, and was considered to be one of the best versed citizens of Ottawa in almost any kind of sport.

Included in the lengthy cortege were representatives of the St. Hubert Gun Club, of which he was an enthusiastic and very prominent member; from the Ottawa Bowling Club; the French-Canadian Institute, of which he was a valued member, and the Dixon Lake Fish and Game Club.

The cortege left the residence, 127 Rideau street, at 7.45 o'clock, proceeding to the Sacred Heart Roman Catholic Church, of which the late Dr. Pinard had been a devoted adherent, where solemn requiem high mass was chanted by the parish priest, Rev. Father N. Laflamme. He was assisted as deacon and sub-deacon by Rev. Fathers E. Villeneuve and L. Gagnon. The choir, under the direction of Mr. H. Lefebvre, chanted Perosi's Mass for the Dead, in two parts, and Mr. P. Gauthier assisted at the organ.

The chief mourners were his widow; a daughter, Miss Adele; his brothers, Messrs. Victor, Major A. A., Paul and Albert, and a nephew, Mr. Rene Pinard.

Among the beautiful floral and spiritual offerings received by the members of the bereaved family were those from the St. Hubert Gun Club, Ottawa Bowling Club, French Canadian Institute, C.A.S.C., Dixon Lake Fish and Game Club, and Ontario Dental College.

Dr. W. H. Stevens died at his home Fredericton, N.B., March 19, 1926. The deceased was born in St. John, graduated from the New York College of Dentistry and practised in Fredericton for twenty-eight years. He was attached to the C.E.F. as a Dental Surgeon. He was for years a sidesman in Christ Church Cathedral. He is survived by a widow, one son and one daughter. Interment took place in St. John.

The death of Dr. A. Scott Ives, one of Montreal's most prominent dentists occurred on Saturday, May 1st, following an operation. The deceased was only 55 years of age. He is survived by his widow, Mabel Harris of Georgia, one sister, Madame J. V. Anglin of New Brunswick, and a cousin, Judge Ives of Calgary. The funeral services were held at the home of Jos. C. Uray on Tuesday, May 4th, and the interment at Coaticook cemetery. Dr. Ives was a graduate of the University of Pennsylvania and soon after graduation he came to Montreal to practise.

SPECIAL THIS MONTH — New Burs \$7 — ROUND — INV. CONE — WHEEL—size 3/0, 20c per dozen. **HIGHEST** prices paid for scraps, etc. **WE RECUT** your used burs extra sharp at 25c per dozen. Sheun Co., 602 Oakwood Blvd., Chicago, Ill., Established 1906.

FOR RENT—A Small Office, being part of a dental office, containing chair engine bracket, etc., situated in Imperial Bank Bldg., Queen & Yonge. This office for dental specialist or other professional man, cannot be excelled. Apply to D. Somers, 171 Yonge St., Toronto.

Dominion Dental Journal

Vol. XXXVIII

TORONTO, AUGUST, 1926

No. 8

ORIGINAL COMMUNICATIONS

Dental Ethics and Economics

In discussing this subject epigram is impossible. This is a defensive statement because so many auditors expect an epigrammatic reply to their questions. To illustrate: A gentleman who was much interested in a famous trial that occurred in Tennessee asked a biologist to tell him why scientists believe in evolution. The biologist wished to be excused from the assignment because he knew so well the difficulties involved, but the questioner would have a reply. He had religious interests and wanted to make a statement before his confreres. Knowing the value of illustration the scientist chose the romance of embryology to give force to the claims of the great hypothesis. Very soon the listener's eyes began to wander, he showed signs of fatigue, and soon remembered an appointment. Next day he proclaimed emphatically that he did not believe in evolution, that the Mosaic cosmogeny was the more satisfying by far and commended it to the congregation with great assurance and peace of mind. What he wanted was an epigram that should have the brevity and force of axiom—a most difficult form of speech in science. Try to formulate one to deal with the dental educational problem with dental economics and so take measure of the difficulty. It cannot be done.

The literature upon the subject is expansive enough. The subject is discussed from every angle. Men who are ethereal in their theory have discussed it. Men who have only a commercial viewpoint have propounded it. The professionally minded have elucidated it, and men of mixed minds have mixed it more.

One man begins with a long quotation from Huxley, dashes his pages with quotations from psychologists and philosophers, calls heredity a bug-aboo, and quotes an unnamed eminent scientist to prove that children are potentially equal but differentiate on the basis of application. Here and there are contributions worth the time of reading and reflection. They are so good indeed that when I read them I said: "There is really no need for this paper of mine. A list of references to them would be sufficient." I can

add nothing to those I have in mind. One recommendation alone is necessary for the reader who will look up the literature, and that is that he preserve his mental balance and read with discrimination. Because a thing is printed or is going to be printed does not establish its infallibility.

What is my excuse for adding other words to vex or annoy? I confess I approached this task with temerity. In the first place you asked it. You thought there was need for the voiced expression of the fundamentals of practice building and management. With each generation the old codes and canons have to be repeated. We repeat them because we believe in them despite the evidence that to believe in anything old is to be old, despite the general belief that today the only principle revered is irreverence. A man in an eastern state followed the presentation of a worthy paper with a sneer at the repetition of old formulae in that paper. He showed weariness at the repeating of ideas he knew so well. When I read it I wished to cancel this engagement. But a second thought bolstered me. "Rule upon rule, precept upon precept" is an old pronouncement. Teachers know its value. The new voice, the new face may reach some who are unreached. A very few reached and helped justify the effort. Those who regard these things as twice-told tales should be patient for the sake of those who might be helped.

Three elements enter into this discussion, an unbreakable triad, a three sided figure. They are the dentist, the patient, the office. How these elements overlap is evident. That overlapping makes the outlining of the subject difficult. We will begin with the dentist. He is to the other two what the long side of the right angle triangle is to the other sides. His importance in the consideration is as the sum of theirs.

He is perhaps the most difficult of the three sides of our triangle. We cannot select him in the first place, and if we did our judgments might not help much. He comes from all sorts of homes with all sorts of culture. His home might not be responsible for him. He might be the gift of remote grandparents. His attitude toward life, toward his profession, his social attitude, his standard of morals, his personality make him an unknown quantity. It would be illuminating to read statements from any group of why and how they selected their profession. All of these elements make him difficult of placement. But in spite of all these considerations he differs not a whit from others. The human problem is too big for formulation. Still no one will deny that every item I have mentioned is most important to his success.

Given all in good proportion one man is a success; lacking any one of them a man is fortunate if he can acquire it. Should he be unable to acquire the element he lacks he is thus far handicapped in his undertakings. Happily the margin of safety is broad enough for men to venture the experiment of life with fair assurance of success even though they often have only a fair equipment. Recognition and appreciation of a personal weakness is the first step toward acquiring strength. Personality, like education, taste, skill, may be developed.

In almost every article that deals with the problem of dental economics the contribution of the schools toward this phase of the dentist's education comes to the fore for mention. And that mention is not always dispassionate. Some men, who evidently have had to learn much in the difficult laboratory of life and have been soured thereby, speak critically or bitterly of the college weakness at this point. The teacher is referred to as "the learned professor," a brand of educator some of us have not seen in dentistry to

date. Another says with amusing naivete, "With four years for the dental programme there is no reason why he should not have a course in this subject." Another, who doesn't seem to know whether the dental infirmary is a collegiate responsibility or a students' pass time, says, "If dental faculties understood business they would conduct infirmary practice in a business-like manner." An extra-professional voice says, "In your dental college you are told that the fee will care for itself." The man who stated that was never to my knowledge in a dental college.

To see what dental schools do with this subject I examined twenty-four catalogues to find that every one gave courses varying from eight to thirty-two hours to its presentation.

The large figure was often divided between ethics and jurisprudence which meant perhaps that approximately eight hours were given to each. I know those hours are pitifully inadequate and that the subject deserves more, but I also know how full our curriculums are; I know the demands made by other subjects; I know the struggle that has attended every added year that has been given to dentistry; I know the seriousness of purpose with which dental educators have approached this problem; I know something of the attitude that students bring to subjects that their precociousness tells them are not practical. They often fail to realize the practicability of some very fundamental courses until they confront some serious problem in the curriculum of life.

The schools deserve criticism no doubt, but I am assured that many of them do wonders with the materials they have to work with. Notice that on the basis of hours they are supposed to teach in four years what a school of Arts would ask six years to do. Remember that students who present at an Arts college come with little prejudice toward the content of the course to be followed. I suspect that nine out of ten dental students come fore-warned as to what is theoretical and what is practical, with much advice as to which is the more important. Very frequently practitioners of years' experience are guilty of being the advisors. Teachers have such work to undo. Ethics and economics are among the discredited theoreticals. And yet how inseparably are they related? They spell out your course of toil and your social relationships. They permeate and saturate our relationship whether we are aware or unaware of it. They deserve more attention than they get, but I have seen a man of unimpeachable integrity as a man, as a teacher, as an ethicist, and as an economist, driven from the lecture hall by students who later would probably applaud the things about schools quoted above.

Let me append some practical results of the foregoing attitude. Because the student of dentistry has a very definite idea as to what is valuable and what is not he misses much that the schools give him. As a result he is the victim of easy seduction when he gets enough money from his growing practice to spend. A class mate of mine once came to me to tell me he had planned to take a course in conduction anaesthesia. He had \$600 in his pocket. He had a family and could ill afford to spend the money. But he had to be able to show his patients that he was as progressive as his neighbors who betimes went to some large city to advance their skill or understanding. I asked him to say definitely what he had to know to do what his neighbors were doing. He told me. I put three books on my desk and said, "All you will ever know perhaps about those things are in there. What else is necessary?" He said something about technique. I

invited him to our surgery clinic and obtained for him, what was most easy to do, the surgeon's interest in the man's desire to perform the "miracle of conduction anaesthesia." He was a welcome guest at the clinic for a few days and then he went home to do what his competitors were doing, carrying with him most of the money he had brought to raise the bank account of another man. Yes, he thanked me. Read what some of those self-appointed teachers say of the anatomy, the pathology, the chemistry of their subjects, and see if you remember a very small amount of what you were given in college, what ludicrous asininities they often proclaim. The much condemned theory of the school course is the only salvation of the practitioner from such expenditures.

The foregoing might be brooked with a little effort were that all, but we know something of men whose interest in dentistry is somewhat extraneous, to say the least. They come to tell us what we should do, what we should buy, how we should adjudicate our interests. We all have seen the exuberant salesman who advises us with a raucous voice, his cigar still between his lips, his hat on mayhap, that "this bur is so fine that you can finish your cavity with it, doctor"; "This fluid will sterilize the mouth or a hand-piece"; "this obtundant will desensitize dentin but will in no way injure the pulp." Another, advising us in practice management, says, "Charge by the hour for work at the chair and the laboratory." That sounds dangerously like the demand of a plumber or a brick-layer. And to a beginner this "Equip yourself to the last word in modern furnishing. Debt will make you work." It will. Another lists the dentist himself first in the professional relationship and the patient fourth. And we pay such men to advise us.

I want to evade a discussion of the dentists' appearance. That as a value seems too evident. It seems utterly unnecessary to spend time on the question of address. I know that after the first estimate of appearance comes that of speech. Many a speaker has lost an audience between chair and lecture, but more have lost it when they began to speak. Many a dentist has lost a patient because of his indifference to rudimentary grammar and pronunciation. One cannot hope to impress a patient with great learning in a specialized calling and be ignorant of the rudiments of speech. Refinements of personality foretell refinements of office conduct and practice. A grocer need not be possessed of wide intelligence to sell his wares successfully because he does not come in close contact with his patrons. The dentist, more than a physician, has occasion to converse, which occasion calls for general intelligence. The reason is obvious. But he must be only wisely talkative. I think every one likes dignity without stiffness, self confidence without conceit, friendliness without effusion. It must never be forgotten that friendliness may be carried to the point where it interferes with business demands.

"Is the doctor in?" I have heard it many times when I have wished for another title. "I wish to see the doctor." I would word the question differently. "Is the teacher in?" or "I want to see the teacher." Not quite so pleasing to the ears, but a bit more pungent none the less. And that is exactly what your title means. In the appreciation of that name is the hope of modern dentistry. The schools are trying to make the men they graduate worthy of it; the men themselves must appreciate it. All through the literature there has seemed to be a growing popularity of the word salesmanship. If salesmen is what we are, if we are in business, then

that is the word, but as long as we take the title of doctor our major function is teaching. In recognition of this is the hope of dental practise. When the advertisements of the manufacturers frighten people to us, or the experience of a friend's recovery from some malady following the removal of teeth sends others, when agonizing pulps drive them to our doors, whatever the cause of their coming, the task of giving them understanding, appreciation, and the development of a willingness in them to pay for service seasoned with intelligence and skill is the task of the teacher.

In every community are opportunities for this basic work. In these days there is a call for it that as public men we cannot evade. A dentist who refuses to respond to community needs fails of an obligation, does himself an injury. If occasions are not forthcoming he is obligated to make them. The old standards of dentistry have changed. The old mechanic has given place to the biologist. The maker of crowns is now supplanted by the man who knows something about the relations of human ills. Scholarship is added to mechanical skill and the result is health service. The reward for such is increased remuneration which such service deserves.

To teach well the teacher must possess two bottomless faiths, one in himself and the other in the value of his services. To have faith in himself he must maintain his study, of his science, of his art. When self confidence has no intellectual acumen to support it becomes conceit. He must be able to think logically and know when he is doing it. He might sometimes be wrong, but his earnestness to be right will keep him from being wrong often. That same mental alertness will preserve him from the snare of the charlatan, from the deception of the pseudo-scientist. From what he hears or reads he will be able to select wisely and with profit. I asked a few of my dental friends what they read and I stopped with the few because of the embarrassment of the question. A man who has not the intellectual interest to read, or whose interest is narrowed to a single subject dimension, practises on a foundation of sand. How can a man think straight and with virility when he lets the foundation facts of his training grow indistinct, refuses his mind the stimulus of student habit and competitive thought? To have confidence, faith in one's self, one must know.

He must have faith in his work. He must believe in dentistry, its place, its function. A man cannot be true to a thing in action to which he is not true in thought. Is dentistry medical in its significance? Is it a health function? Is it a biological program, or is it mechanical and metallic? Do our operations deal with vitalities or are our protestations to that effect vagaries, self delusions? With these standards before us we keep our minds keyed to analysis and receptivity, we maintain our operations on a plane of our best endeavor. Regarding it thus we can talk with our patients about it with enthusiasm and conviction. For years I have witnessed the difficulty of bridging the gap between the sciences and practice in the schools. I sometimes wonder if it is ever accomplished. In the more serious vocations of the private practise the vital connection grows and some men realize the intimacy between an infected tooth root and physical debilitation. But I am also convinced that some men never see the relationship. To the former the routine of the day is benefaction; to the other it is a job. Most frankly I should advise the man who does not believe in his calling as an exalted thing devoted to health and life to

abandon it for something to which he can be true. Will any one say this is not a basic element in success?

The patient, too, is somewhat of an unknown quantity. He presents himself always full of frailty and often full of pain. Perhaps he has no pain but comes from a sense of duty.

Mayhap he is shopping. He might have read your sign and not even noted your name. Selective judgment he might never have thought necessary in visiting a dentist. Likely, too, he brings a Scotch purse with its strings in a knot. Probably he has no virile sense of ethics, allows his sense of responsibility to wear away with the age of his bill. He might be adept in excuse making for the postponement of his obligation. There is a probability, too, that he comes well referred. Samples of all are found in the ebb and flow of our clientele. They differ not a whit from ourselves. We are just folks who have become professional. Scratch us and we bleed red; swear blue. Patients are in large measure ourselves with other names. So we meet them as we would be met. But something else may also be found over wide spread areas of your dominion and that is intelligence, a sense of fairness, a desire to understand, an appreciation of values. I fear sometimes that dentists are with patients much as teachers are with student. Teachers sometimes speak as though being a faculty member is equivalent to being infallible. Being a teacher he is right; the student perforce is wrong. It occasionally happens that a student comes along who is better trained, better equipped, better posed mentally than the faculty man. It is well for the practitioner to know that a patient may be even so.

How will you handle them to succeed? Who shall tell you? What is implied by the phrase? What more than a sensible adaptation of ourselves to their differences with courtesy and respect. To some we shall be acceptable and to some we shall be objectionable. Some on the strength of the recommendation given them will remain with us for service; others will go on to find some one nearer to their liking. Some are stolidly indifferent to personality; a dentist is a dentist, men are men. Others will be sensitively balanced and will have to be served judiciously. There is no formula for this phrase of practice. Each is left to his own devices, to his own judgment. No matter how crude some men may be it seems in many instances that such men develop a patronage. In the city this is perhaps more possible than in the smaller places. The answer seems to be that people fraternize because of similarities. But we are not discussing such as these. Replies to a number of questionnaires brought to me many suggestions pertaining to personal cleanliness, personal habits, dress and the like, every suggestion palpably vital, palpably appropriate, but should I mention manual or bodily cleanliness, vulgarisms in speech, buffoonery in this presence. Scarcely. Still such rudiments of acceptable living sprinkle the literature, and some very serious, thoughtful men urged them. How can a man reach the licentiate not having learned things so simple? If he has, what effect would a series of do's and don't from a public platform have upon such a person.

Many things are said to be expected by patients. One man said "Patients want sympathy more often than any other consideration. Disgruntled persons leaving one dentist for another leave oftener in quest of sympathy than anything else." Another said "Patients like to be recognized as intelligent and resent the dentist's dictum without explanation." Another insisted that patients enjoyed a dash of personal interest above other courtesies. This

last man said, "If a patient told me he was going to marry or go to the north woods, I made a note of it, and when he returned I reestablished connections with him often to his most evident pleasure." Akin to this is the enjoyment of one's own name. In our city buildings where doctors of every sort are as numerous as roaches, and are as easily recognized, the "How do you do, doctor," becomes a dreary inanity in a little while. Even so the mirthless smile and vapid "How do you do, Mr.—" with the name unspoken and the voice dwindling into a moan must become repulsive. In the above colony of doctors I used to feel like saying, "Please call me Doc, it would at least be a variation." It is easy to learn a name and, to be practical, it is worth money to speak it. The patient knows he is not always wrong and resents the inference. If a denture does not fit it is not always nervousness or fussiness that explains it. Patients object to being made one of a crowd in a waiting room. Nothing bellows the inefficiency of a dentist louder than a populous waiting room. As a principle of practice do something for the patient every time he comes. The touch and go system of practice is decried by every person who has been afflicted by it. Don't cancel appointments; patients want to get done with you. Thus on and on the letters ran full of the little commonplaces so resonant with common sense that one would suspect no mature man would need to be told. The literature is also full of just such rudimentary elements of dental deportment.

Some one suggests that obtaining patients is elemental to practice management. It seems conclusive that one must have patients before one can have practice. This problem involves the question of location. On what grounds are locations chosen. A student old enough to have determined his vocation ought to be expected to recognize the importance of determining his location. This does not imply the settlement of the issue, but rather the laying of foundations for the final estimate. When the last student year has come, the time is rather short for the consideration the subject deserves. Many times men are graduated before they know where they will labor. Should the man be very young the item is not so serious. A high percentage of graduates who hail from rural places become enamored of the city and settle there. This is to be expected. Four years of city life, of city enjoyments, of city opportunities, of city associations make it difficult to abandon the city. The smaller place from which the young man comes mayhap has all the dentists it can support. Perhaps too they are all dependable and honorable men. The ebb and flow of urban communities give the new comer a chance on any corner. The transient is there with the gamble of a worth-while attachment. I have been convinced for years that I would prefer the city for beginning practice. The man who has predetermined to return to his home village to practise should by all means keep in touch with it during his college years. His return should be frequent enough to keep acquaintance alive. Should he prefer some other place his establishment must follow the normal opportunities for acquaintance. The civic, social, and religious life is always open to him, according to his choice.

Practice gathered from the activities of normal citizenship is a just and honorable return; it is the citizen's right. Should such a man choose a place that cannot support him, obviously the only remedy is to select another abode.

Beginning in a city involves other questions, but the basic elements of them differ in no way from those concerned above. As soon as a man determines to live in the larger place he should acquaint himself with the conditions of metropolitan life. Community relationships in large cities have many resemblances to lesser urban and rural life. Similar organizations of human activity give opportunity for a share in the life of such places. To go into any place and depend upon a few letters in gold leaf on a window or a board, swaying in the wind, is a discouraging policy. If the city chosen be the location of the dental school, residence in the selected neighborhood during school days with a man's participation in the interests of the chosen community will assure a beginning almost without fail. This is not always practical, but it is often easy. That a student should immunize himself from all extra-mural relationships during his four years of college life is a folly. It is likewise a noticeable injury to the student. Graduates from professional schools following their years of semi-segregation often present amusing or pitiful inaptitudes when freed by graduation.

Beginning with other men is frequently chosen as a means to the desired end. This has its advantages, and as frequently its disadvantages. It is a means to an acquaintance, it implies partial freedom from the full responsibility of office maintenance. According to the arrangements made it implies something of an income. But its disadvantages are worth mention too. The patient's disparagement because he is a sort of employee. The difficulty of bringing his own patients to his chair under the contractual relation,—the gradual development of dependence upon some one else; the vexations that almost always accompany the separation when that time inevitably comes; these deserve some reflection. Certainly such relations depend upon the characters that are brought into such intimacy. I have known of instances that illustrate the union as a complete success; I have observed all grades of failure.

The third side of the triangle in later years has drawn a lot of attention. The business side of dentistry as a title for addresses and publications has become popular. The dentist as a business man has assumed the character of a joke. I think sometimes the dentist himself has often regarded himself as a babe in the woods, or the professional circle would not have been invaded by the professional salesman. Something must be wrong with us or the folk from whom we buy would not be so interested in our welfare. I am sure those people entertain no sentiment for us. They come to teach us 'tis true. We pay them well for their teaching. We are told that the schools that teach economics teach it with too strong an ethical flavor. It is here the professor is laughed at, and the curriculum criticized. It is here that the professional man is told by the business man what to do and what not to do. Here it is, we find the order of medical service reversed and the scholar and scientist, if such we are, the man of ideals and intellectual interests surrenders to the sellers of things.

Let us look at the dentist as a business man. His task is the estimate of his expenses, the addition of a reasonable salary, and a margin that he deems his rightful profit. To this add the gradual increase of salary and margin as skill and confidence and experience with increase of patronage justify. He estimates the hours of his labor and the price per hour necessary to maintain the standard set. Many a housewife in her care of the family

exchequer has problems as great. A business man forsooth! Hear the suggestions made!

Charge for little things. Go ahead does not mean that the patient will pay. Don't reduce prices because patient is friend. Select the patient as patient selects you. Treatments are the greatest "lost motion" in dental practice. Charge for broken appointments, fitting of dentures, treating "baby teeth" and so on and on as though the persons addressed just emerged from a kindergarten. If a man does not charge for such, what is he in an office for? Or if he does not charge for a given item may he not wisely enough be considering some other factor. The number of men who make good incomes from their dentistry suggests rather strongly that much of the drivel that pours from the lips and pens of these teachers is unnecessary. Surely a man of average intelligence needs only to take time sufficient to think of his problems to make all such suggestions as I have quoted unnecessary.

From the letters I received I learned that in many communities there was no co-operation among the practitioners. No basic cost had been agreed upon for similar operations. Co-operation was long ago established as a successful starting point for competition, but in these areas the dentists fail to benefit themselves by the principle. In others such had been done with noticeable advantage. Fixing the upper limits presents a different equation. Betimes one is told "the sky is the limit" or the practitioner has a right to charge "all the traffic will bear."

I wonder sometimes just what is the honor sense of a man who will say the first or the common sense of the man who will say the second. Both are economically preposterous. What shall be the limit? No one can tell you. That is the problem of the professional man. It is a question widely variable, modified by the parties concerned. The dentist or physician does not know the value of his work; nor does the patient know. How then can a figure be fixed. Here every man must think for himself, knowing that there is a limit to the worth of his services, and the patient means more to him as a future asset than an immediate subject of gain. Beyond the limit the demand becomes unjust; likewise at some point not necessarily low the patient becomes justly suspicious and makes a determination that means a permanent farewell.

Some men will not take a thing because it is cheap; others cannot take some things because they are dear. The adjustment of prices becomes then our personal problem. No man can answer it for us. In both cases the service rendered must be our best. The patient we accept obligates us to that best. One man I know has three sets of fees. He grades them upon the basis of the incomes of his patrons establishing certain marginal figures. The lower figure folk he gradually deletes and in his own interest develops the higher levels. Who will care for those who cannot meet the fees of the general practice? That question takes on a civic character something apart from the issue of this paper. But certainly the dentist can do only a reasonable amount of work at cost or at a loss with fairness to himself and his dependents. Problems are the savor of the day's toil. It is the problem and the ability to cope with it that marks off a professional from artisanry.

When we talk of ethics and economics we are prone to divorce them too widely. In one breath we speak proudly of being professional and in the next talk of business and salesmanship as though it were primary in importance

and professional ideals a mistake. Sometimes we become rebellious and talk of these things as though we would leave the one and "Cleave unto the other." The fact is they cannot be divorced. Out of economic relation ethics grow. There was a time when people regarded ideals as of another sphere than daily experience. Religion and business, religion and politics were loosely united. Then came a change. We aver to-day that a religion is a poor thing that doesn't find place in every endeavor. Ethics and economics are like the Edenic pair the "twain are one flesh." We may speak of dollars and cents and be decently professional. We may speak of income and still be possessed of idealistic integrity; bills and debts need not to be whispered or collections for fear of class ostracism. There is a finesse, a sense of nicety, sensitivity to intimate things that should restrain one from public orations about them. No man whose service has to do with health, life, the faith of others, has a right to place money in the foreground.

Service is distinctly public in its relationship; remuneration is distinctly private; both service and remuneration are definitely and indispensably personal. Read any treatise on ethics and see if we have been justified in many of the things we have heard and applauded. May I quote, "A price is supposed to bear upon some pretty definite relation to cost of purchase and manufacture with the added expense of carrying it in stock and the like. There is a much greater flexibility about a fee. The primary basis for a fee is the same as a price or wages, but a fee can be influenced by the art, knowledge, skill, the judgment and wisdom and reputation for success as well as the importance of the service, the risks attending it, the benefit following it and the injury resulting from failure. Likewise must be added the ability or inability of the patient to pay. Is that a dollarless idealism? That is a quotation from the work of a college lecturer.

I purposely avoid office equipment and details of office management submitting only the stimulus to enough self-confidence to believe that there is nothing occult, nothing esoteric, nothing recondite about it, persuading you that you are equal to the occasion of its analysis, the discovery of your short-comings, the places of your loss. Certainly a man capable of the training every one of us has borne should be capable of that. Should one find himself inimical to business processes in their simplest form his assistant might be of service or an accountant. I know some men whose wives provided the acumen that made a success of their husbands' service. I take it that it is no disgrace to have a distaste for figures, but it is a disgrace not to have the figures adjusted with justice to one's self and one's dependents.

Make of the office an observation station in the interest of dentistry; of material service, tissue response to treatment, variations from what is thought to be normal, causes and effects. Test out for yourselves the principles of your own practice, tabulate, study and make deductions. In other words, maintain an alertness that shall have for its object an aid to yourself and your profession. When confronted by problems use your schools more than you have done heretofore. They are at your service.

In fifteen years of teaching I have received only one request for information that might be expected of my department. I have asked other teachers and find that exceedingly few men keep in touch with the school specialists in any line. I know the common retort, but our plate instructor sees more plates and directs in the making of more than any "specialist" in private practice. Our crown and bridge man, our pathologist sees more:

and I'll venture to say knows more than any peripatetic income-enlarging, self-adulating oracle we pay to talk to us. Submit to the schools your findings and feel yourself grow in a productive interest as together you and they evolve information worthy of a place in general knowledge. In the States a step was taken to advance the practitioner's interests in the organization of study clubs. I suspect sometimes that they have not been the success they might have been for the reason that not much studying was done. Study is an intimate, individual thing. Some one doing it for us gives only a partial result to us. Something, we must do ourselves. We vitalize our practices with our own brain might and not that of another.

Purposely have I made the dentist primary in all the considerations I have presented. He is the major figure, the most important element in all office considerations. With him finally, is the last word pertaining to the activities within his office walls. With him is the management of the business practice average or otherwise. I have wished to see him the master that he easily may be, his own director, his own judge, his own analyst. Should he fail to make himself do what he readily may do, should he insist on aimless business practice, should he resent the demands of his professional ideals, in other words, should he prove that dentistry is no place for his life endeavor, it is creditable to do something else. A diploma is not an oath of allegiance to misplaced energy, a badge of imprisonment to a life of mis-service.

Periodontia for the General Practitioner

C. ALVIN SNELL, TORONTO

Read before the Eastern Ontario Dental Association, June 23, 1926.

Your essayist admits that the title of this paper may be open to criticism, as it is evident that the practice of periodontia by the general practitioner cannot differ from that of the periodontist except possibly in degree. The importance to every practicing dentist of the recognition of, and the necessity of dealing with, periodontal lesions can scarcely be exaggerated. It is the basis of all successful dentistry. The placing of beautifully carved inlays in teeth whose supporting structures are all unknowingly breaking down, can equal only in folly the building of the proverbial house on the shifting sands. The writer most earnestly pleads for a changed attitude on the part of the average general practitioner towards periodontal disease.

Too often there is a feeling of pessimism which would, with a clearer comprehension of the etiological factors involved, and the faithful development of the technical skill to deal with these factors, be changed to one of optimism and even of enthusiasm. Always, there will be the few who, because of temperament and special training, can best practice periodontia as a specialty; but it will also be true, that upon the shoulders of the man in general practice falls the responsibility of recognizing the earlier signs of disease, which will enable him to prevent the

extension of the lesion before it has progressed so far as to require special skill. This, as Dr. Pollia says, "places the general practitioner in the position of a bulwark protecting the masses from the advanced type of dental diseases." And there never was a time in the history of dentistry when the opportunities of keeping abreast with the progress of knowledge were so great, as to-day. There never was a time when those with special knowledge were more willing to impart that knowledge to others. Doctors Stillman and McCall in the preface to their very excellent text book, "Clinical Periodontia," say, "The dissemination of knowledge which will assist our colleagues in the control of periodontoclasia furnishes the underlying motive of the publication of this book."

It is true that we have much yet to learn, and a perusal of our dental literature reveals great divergences of opinion regarding etiology. One well-known writer prefers to retain the old term "pyorrhoea," speaks of it as a germ disease, and believes that the destruction of the supporting tissues depends upon bacteria only. Another regards constitutional conditions as the determining cause, and would probably unwittingly recommend a sea voyage to a sailor. Another working along the lines of animal experimentation believes wrong diet to be the predominant factor; while others, misguided enthusiasts these, extoll in most alluring words the wonderful virtues of some most marvellous drug, which holds out hopes to the gullible of a short and easy cure. Others, believing that all pathological conditions indicate disturbance of function, look to faulty occlusal relationships as the one all-important initiating cause, which so depresses the vitality of the tissues as to render them an easy prey to invading micro-organisms.

Such diversity of opinion, while confusing to the casual reader, is a plain indication of the complexity of our problem; and we must at the outset recognize that there is always a combination of factors which, acting together, produce that destructive process which we designate periodontoclasia. The successful operator recognizes the wisdom of leaving nothing undone which will contribute to a satisfactory result. He will view the question with an open mind, weigh the evidence submitted, and determine the truth of any theory by the success which attends its application in practice. Your essayist does not wish to convey the impression that the writers whose various theories are above given are narrow in their outlook. Generally speaking, they are not, and in practice will be found to deal with the combination of factors which are revealed. But there undoubtedly does exist a great difference of opinion as to the relative importance of the causes.

To secure the happiest results let us then at all times render the occlusion as innocuous as possible; see that reasonable attention be given to a sane diet and hygienic living; eliminate the infective factor by the removal of every source of gingival irritation; and secure the patient's most earnest co-operation in stimulating the resistance of the tissues to bacterial invasion, and the mechanical removal of the bacterial plaques, by thorough instruction in tooth brush massage. The constitutional factor cannot of course be ignored. In cases of diabetes, for instance, treatment would be contra-indicated. Consultation with the physician is at times imperative, and the dentist may, on occasion, be the means of directing the attention of the physician to some grave disorder.

Correct diagnosis is the one and only basis of successful results.

Stillman says: "The whole secret of a broad success lies in diagnosis. The joy in periodontia lies in doing those acts which are indicated; the satisfaction in knowing that one's pre-operation study and diagnosis have been proved correct by cases recovering their health after treatment."

If then the general practitioner is to become the bulwark of protection which his relationship to his clientele demands, he must think more in terms of periodontal health. He has become expert in restorative procedures, but his attention has been focussed on the crown of the tooth. He must, however, become not less of a mechanic but more of a diagnostician. If the extensive ravages of periclasia are to be averted, he must think first of the periodontium, the three essential component tissues of which are the alveolar process, the pericementum, and the gingivae. If his obligations in this regard are to be fulfilled, the order of procedure upon examination of the mouth should be somewhat as follows:

First, look for mobility. This may be determined by digital pressure combined with palpation by means of an instrument, and also by sighting along the teeth, after first asking the patient to place the teeth in centric occlusion, and then requesting the various lateral and protrusive movements of the mandible. At the same time, if desired, a finger may be placed on the buccal or labial surfaces of the teeth under observation. Box has very conclusively shown the pathological changes occurring in the pericementum and alveolar process where mobility is evident before there are any other clinical manifestations. It is possible that in very young patients pathological changes may not have occurred, but even then perceptible mobility is to be regarded as a potential destructive factor. It will be found that many patients will have developed nervous habits, which cause them at times to place the teeth in abnormal stress. Variability of wearing qualities in filling materials, varying wearing qualities of the tooth structure, the shifting and tipping of teeth following the loss of even a single tooth, and the eruption of teeth, particularly the anterior teeth, into positions which mean occlusal disharmony, all play a part in producing interference during the various movements of the mandible.

Next look for changes in the color and contour of the gingivae. Any departure from the normal is to be regarded as pathological. Box has given us twenty signs of incipient periodontal disease. Some of these I have endeavored to visualize in the diagrams presented. Box presents to us the evidence of his research work, and leaves us to draw our own conclusions. It is my own personal conviction, based upon close clinical observation, that the predominant factor responsible for these lesions is faulty occlusal relationships. You may argue that some faulty metabolism is back of it all. You may place it any place in the etiological picture that you desire. But in order to get permanently satisfactory results you must deal with it. An analogy may be found in our management of dental caries. The Miller theory does not fully satisfy our minds, but while still searching for the truth, we apply what knowledge we have, and save the teeth.

Next, let us look for pocket formation. Remembering that the gingival crevice is from one to two m. m. in depth, and that anything beyond this is pathological, and indicates a corresponding amount of destruction of bone, it will be astonishing to one who has not been persistently hunting for pockets how many can be found in a mouth with apparently healthy gingivae. Digital pressure on the gingivae is a valuable diagnostic aid, especially in a mouth presenting a normal appearance. Hemorrhage on

such pressure indicating a mild gingivitis, or the exudation of pus showing a deeper seated lesion may be thus revealed. There are on the market instruments for measuring the depth of the pockets. These are marked off in millimetres and are highly desirable. Box's diagnostic probes are excellent for this purpose. Showing the patient the location and depth of such pockets by means of these probes arouses their interest, and is an added means of securing their active co-operation in gingival massage. Personally I like to use also No. 2 Clev. Dent explorer with a delicate touch. There is no danger of wounding the tissues if the touch is sufficiently delicate. The curvature of the explorer enables it to follow the contour of the root surface. It is also in my hands invaluable in checking up the results of instrumentation on the root surface. It is important to note that very extensive pocket formation may have occurred without visible change in color or contour of the gingivae.

We will now gain much additional information with a complete set of radiograms. In any advanced case this is imperative, and should generally be regarded as a routine procedure in making a diagnosis. Pollia truly says, "Only the radiograph can reveal the true extent of bone involvement. Not infrequently a mouth having a favorable clinical appearance has a surprising amount of diseased bone tissue." The radiograph is also of inestimable value in showing the early breaking down of the alveolar crest due to traumatic occlusion. And incidentally patients will more willingly acquiesce to corrective measures, when the radiographic evidence is pointed out, who might otherwise be reluctant to have their teeth ground. The term grinding the teeth is not a particularly happy one to use before the patient. It is rather too suggestive of some large grindstone with its voracious cutting qualities. A better phrase would be reshaping the teeth to overcome interference or modifying the bite to bring about a more harmonious relationship.

During the course of our examination, we will have made such records on the patient's chart as we think are needed. Such charting may be simple or elaborate, according to the temperament of the operator. But at least the location and approximate depth of all pockets should be indicated by heavy shading, and if all pockets are not noted in this examination, they will be found later when dealing with the individual teeth when doing instrumentation and when recorded; the roots of pulpless teeth outlined; and where vitality tests have been made the results indicated; caries noted; all hopelessly diseased teeth marked to be extracted; and teeth at present missing so recorded.

We are ready now to answer the anxious patient's question, "Can my teeth be saved?" Upon what shall our answer be based? Let us put it this way. Our prognosis is unfavorable.

A. If more than half of the alveolar support is lost as revealed by the radiograph. There will be some exceptions to this on single rooted teeth.

B. If any one of the etiological factors present cannot be eliminated.

C. If a tooth on the border line has to be used to stabilize a partial denture.

D. If a tooth has an infected root canal.

E. If the investing tissues possess a subnormal ability to react to remedial measures.

F. If the patient's loyal and intelligent co-operation cannot be secured.

I would say further that if the presence of certain teeth is not in the

interest of the best restorative work, they should be extracted. I agree with Leonard when he says, "The mouth should be stripped down to the point where disease can be treated and cured, and where reconstruction work can be put in that offers a probability of permanence."

We have now made our examination, charted our findings, and made a prognosis which holds out for the patient, prospects of a reasonably permanent and happy result. We should next direct our attention to the elimination of the etiological factors in the order of their importance. In what might appropriately be termed a dirty mouth this would first consist in obtaining a more sanitary condition by scaling and polishing, and the institution of more vigorous measures of mouth hygiene on the part of the patient. No attempt should be made at this stage to enter the pockets which are present. Next extract all teeth which it has been determined to remove. In what might be called a clean mouth our attention should first be directed to the occlusal factor before scaling of the pockets is attempted. The influence of this factor is so profound in its depressing effect on the vitality of the tissues that a sharper response to our instrumentation is secured when the occlusal stress is first brought to within physiological limits. So varied is the reaction to abnormal stress that teeth hypersensitive to thermal changes are frequently found to become normal when the stress is relieved. Sensitive areas at the cervical portion of the teeth seem to be often associated with this factor. The principles to be observed are to balance the occlusion as much as this is possible, bringing a group of teeth in contact in lateral protrusive movements where possibly only one touched before, thus distributing the load, and to so adjust the occlusal planes of the molars and bicuspid as to bring the component forces of mastication in the direction of the long axis of the tooth. This I have attempted to show in the diagrams presented. In locating the spots to be ground, carbon paper is a guide, but is not to be too much relied on. It may give a false marking owing to its stiffness. I have found Rudischhauser's the best. A paste composed of lamp black and white vaseline, as suggested by Bricker, although mussy, is helpful. The opposing teeth are dried and a thin coating of paste applied to the tooth or teeth of one jaw. Closing of the teeth and subsequent movement of the mandible indicates the spots requiring grinding. Experience as always is the great teacher. The mounting of models on an anatomical articulator enables one to see the points of interference from various angles not possible in simply looking in the mouth. While not necessary as a routine measure, it is exceedingly valuable in cases requiring extensive correction. No phase of periodontal technique is more exacting in its demands on the operator, but as compensation none is more gratifying in its results when thoroughly performed.

Having now obtained a satisfactory occlusion in a reasonably well cared for mouth, our attention is next directed to the matter of more intensive brushing, in order to secure the advantages of the stimulating effects of tooth brush massage. Such brushing has been well described by Charters, Stillman, Hartzell and others. And for the purpose of such instruction, a demonstration in the mouth of the patient is absolutely necessary. Merely describing the method is in my opinion futile. In fact, it is the exceptional patient in any case who masters it in one lesson. Considerable tact though is required to avoid wounding the susceptibilities of the patient when further instruction is needed. The use of the disclosing

stain is helpful in this respect. A lady of refinement who would be shocked to learn that she had failed to remove all food debris, takes kindly to the staining of bacterial plaques, and the demonstration of more efficient means of removing them.

Our final step is the instrumentation on the root surfaces. It is to be feared that the average dentist, when a case of so-called pyorrhoea presents itself, reaches for his scalers the first thing. But we have seen the importance of the steps leading up to this. We know that after taking such steps, nature is now able to put forth her best efforts to bring about a rapid recovery. What instruments shall we use? Sickles, files, planes, and curettes all have their place. There was a time when the writer thought that one particular type of instrument was superior to all others, but he has long since passed that point. It is the man behind the instrument that is all important. It is pretty well agreed, however, that whatever type of instrument is used for the initial scaling, that a curette is indicated for the final apexosis, for the reason that this type of instrument will likely leave the root surface freer from grooves and scratches, and it will at the same time, owing to its double edge, lightly curette the surface of the adjacent soft tissue. In my opinion the following are essential requirements for success, visualization of the histological anatomy of the parts; an understanding of the pathological changes which have occurred; a touch of the most delicate character; patience developed to the highest degree; and willingness to spend any amount of time on one tooth, the length of time being whatever is necessary to be thorough. The technical skill required is undoubtedly exacting. What is chiefly required, I think, is the will to patiently master it. Trying different instruments on recently extracted teeth is highly educational. But having acquired the technical skill the results are correspondingly gratifying. And I believe that the sense of touch is not as highly developed in any of us as it may become by desire and persistent practice. During the course of our work we will of course have smoothed the margins of all fillings. And for this purpose files are best adapted. We will thoroughly polish the teeth also. Narrow silk prophylactic tape charged with X.X.X. silex is especially useful for the cervical portion of the teeth. The method of use consists in wrapping it around the tooth, and crossing it before pulling back and forth. This produces an up and down motion and avoids the tendency to polish in one spot only. The whole principle of polishing the teeth is to make it as easy as possible for the patient to do his or her part. It is the application to our work of the principle of legislation laid down by Gladstone, when he said that "all legislation should be so framed as to make it as easy as possible to do right, and as difficult as possible to do wrong." After the work is completed, patients should be seen as frequently as is necessary to assist them in maintaining a hygienic condition. Further use of the disclosing stain to indicate points that are being missed is a most useful adjunct. Always the emphasis should be placed on the thought that we are assisting them. And if our judgment was correct, and we have left nothing undone which we should have done, the onus of maintaining a healthy result must be placed on the patient. And it is well, I think, that patients should realize this at the outset. Granting that these various and somewhat exacting conditions are fulfilled, then we may experience that joy of which Stillman speaks, "of seeing one's pre-operative study and diagnosis proved correct by cases recovering their health after treatment." And in conclusion, let me say that I know of no joy in the practice of dentistry to quite equal it.

SOCIETIES

Ontario Dental Association Annual Convention

The Fifty-ninth Annual Convention of the Ontario Dental Association was held at the King Edward Hotel, Toronto, May 17 to 20, 1926. It was well attended, showing a registration of 561 members and 58 guests, including a number of dentists who graduated from the Royal College of Dental Surgeons and are now practising outside the province.

Monday morning, May 17, was given over to registration and the convention was officially opened at 2 o'clock on Monday afternoon. The members of the Association were the guests of the Royal College of Dental Surgeons at a delightful reception held at Hart House on Monday evening when the dentists had the opportunity to meet Sir Robert and Lady Falconer. The Re-union dinner took place on Tuesday at 12.30, with Sir George E. Foster as the special speaker. He gave an address on "The League of Nations." About three hundred attended the dinner-dance on Tuesday evening and enjoyed the excellent programme provided. The Association and the Toronto Kiwanis Club held a joint luncheon on Wednesday at noon, when Dr. Fred J. Conboy gave an address on "Enemies of Public Health." Wednesday evening was given over to Class Dinners and Theatre Parties. The convention was brought to a conclusion with a very successful Golf Tournament at the Richmond Hill golf course, when eighty dentists took part in the competition. The ladies' entertainment committee arranged special features for the ladies who accompanied the dentists.

The Clinics were given on Tuesday, Wednesday and Thursday morning, when the following clinicians made most valuable contributions to the programme.

THE PROGRESSIVE CLINICS

The London Dental Society

Subject—Amalgam. Clinicians, Chairman, Dr. J. F. Giffen.

Section 1.—Mixing. Dr. J. F. Blair (captain); Dr. J. Hutchinson, Dr. H. Taylor.

Section II.—Tamping. Dr. E. W. Fuller (captain); Dr. V. Kelly, Dr. Harold Windrum.

Section III.—Stepping Cavity Walls. Dr. Ross Thomas (captain); Dr. G. N. Howden, Dr. Fred Kennedy.

Section IV.—Orderly Condensation. Dr. R. H. Sykes (captain); Dr. Duff Barnes, Dr. A. E. Santo.

Section V.—Adjusting Matrix, removing matrix, carving and finishing. Dr. J. O. McCutcheon (captain); Dr. W. Y. Hayden, Dr. F. S. Radway.

The Department of Periodontology

Faculty of Dentistry, University of Toronto

Subject—Prevention and Treatment of Periodontitis. (Correcting Occlusion, Instrumentation, Self-treatment). Clinicians: Dr. Harold Keith Box (captain); Dr. Charles E. Sutton, Dr. R. M. Box, Dr. W. G. Trelford, Dr. J. G. O'Neill.

The Toronto Academy of Dentistry

Subject—Appliances for the simpler cases in Orthodontia. Clinicians: Dr. C. A. Kennedy (captain); Dr. G. Vernon Fisk, Dr. S. S. Crouch, Dr. C. A. Corrigan, Dr. H. G. Bean.

Full Denture Construction—Dr. F. S. Weir.

X-Ray Interpretation—Dr. H. H. Jackson.

Partial Dentures—Dr. E. Crummer.

Dental Pulp Therapeutics—Dr. A. E. Webster.

Children's Dentistry—Dr. T. B. McCrum.

Crown and Bridge—Dr. I. H. Ante.

Gold Inlays—Dr. S. Clappison.

Local Anaesthesia—Dr. F. F. Molt.

The exhibits were both attractive and instructive and included displays from the following companies: Allen & Rollaston, Toronto, Ont.; The American Cabinet Company, Two Rivers, Wis.; The Antidolar Mfg. Co., Springville, N. Y.; Ash Temple Co., Ltd., Toronto, Ont.; Bristol Myers Company, New York, N. Y.; Cameron Surgical Specialty Co., Chicago, Ill.; Clarke Dental Mfg. Co., Toronto, Ont.; Wilmot Castle Co., Rochester, N. Y.; L. D. Caulk Co. of Canada, Toronto, Ont.; Columbus Dental Mfg. Co., Columbus, Ohio; Cook Laboratories, Toronto, Ont.; Corega Chemical Co., Cleveland, Ohio; Dental Company of Canada, Toronto, Ont.; Dentists' Supply Co., New York, N. Y.; Denver Chemical Mfg. Co., New York, N. Y.; Detroit Dental Mfg. Co., Detroit, Mich.; Dominion Toilet Brush Co., Morrisburg, Ont.; Hugo Friedman Mfg. Co., Chicago, Ill.; Friedman Specialty Co., Chicago, Ill.; Goldsmith Bros., Toronto, Ont.; Ed. Green, Toronto, Ont.; J. Hargreaves, Toronto, Ont.; Heidbrink Mfg. Co., Minneapolis, Minn.; Horlick's Malted Milk, Montreal, Que.; Ideal Tooth Inc., Cambridge, Mass.; Johnson & Johnson, Montreal, Que.; Kolynos Co., New Haven, Conn.; Kress & Owen, New York, N. Y.; Lambert Pharmacal Co., Toronto, Ont.; H. R. Lathrop & Co., New York, N. Y.; Lavis Chemical Co., Toronto, Ont.; Mallinckrodt Chemical Works Ltd., Montreal, Que.; Wm. S. Merrell Co., Cincinnati, Ohio; National Refining Co., Toronto, Ont.; Novocol Chemical Co., Brooklyn, N. Y.; Office Specialty Mfg. Co., Toronto, Ont.; Pepsodent Co., Toronto, Ont.; Chas. H. Phillips Chem. Co., New York, N. Y.; Poloris Co., Inc., New York, N. Y.; Ritter Dental Mfg. Co., Rochester, N. Y.; Safety Anaesthesia Apparatus Concern, Chicago, Ill.; Stratford Cookson Co., Philadelphia, Pa.; E. R. Squibb & Sons, New York, N. Y.; Thompson, Bannatyne & Galley, Montreal, Que.; A. Wander & Co., Toronto, Ont.; A. C. Whitely Laboratories, Toronto, Ont.; S. S. White & Co. of Canada, Toronto, Ont.; Williams Gold Refining Co., Buffalo, N. Y.; W. Lloyd Wood, Toronto, Ont.; McKerson Anaesthetic Supplies, Dr. Chase Medicine Co., Toronto.

The officers in charge of the Convention were:

Hon. President—W. G. Thompson, Hamilton, Ont.

President—J. C. Devitt, Bowmanville, Ont.

Vice-President—J. A. Bothwell, Toronto, Ont.

Archivist—C. A. Kennedy, Toronto, Ont.

Secretary-Treasurer—Fred J. Conboy, Spadina House, Toronto, Ont.

Board of Governors and Programme Committee—O. S. Clappison, Hamilton; W. L. Chalmers, Toronto; W. B. Amy, Toronto; A. W. Winnett, Kingston; T. F. Campbell, Galt; A. W. Ellis, Toronto; F. P. Moore, Hamilton; H. A. Hoskin, Toronto; R. J. Sprott, Barrie; E. R. Zimmerman, Toronto; H. Clark, Toronto.

Ladies' Committee—Mrs. W. B. Amy, Mrs. Wallace Seccombe, Mrs. A. E. Webster, Mrs. J. A. Bothwell, Mrs. C. A. Kennedy, Mrs. E. A. Paul, Mrs. C. E. Brookes, Mrs. W. L. Chalmers, Mrs. A. W. Ellis, Mrs. A. J. Broughton, Mrs. E. L. Gausby, Mrs. F. C. Husband.

Oral Hygiene Committee—(Elected)—A. W. Ellis, chairman; J. C. Livett, secretary; F. C. Husband, R. J. Reade, H. E. Eaton.

Dentists' Legal Protective Association—Harold Clark, president; W. E. Willmott, secretary; Wallace Seccombe, R. G. McLean, W. G. Thompson, F. J. Conboy.

The meeting of the Ontario Dental Association was held in the Crystal Ballroom of the King Edward Hotel. The president, Dr. J. C. Devitt, presided.

President: I shall open this meeting by calling upon Dr. W. C. Trotter to deliver his address and report on "Canadian Dental Hygiene Council."

Dr. W. C. Trotter: Mr. President, ladies and gentlemen: The Canadian Dental Hygiene Council is the clearing house for Oral Hygiene activities in the Dominion of Canada. Its membership is made up of both laymen and dentists. We are anxious to have the co-operation of every public-spirited man or woman who realizes the importance of mouth health to the individual and the community.

General the Honorable S. C. Mewburn, K.C., of Hamilton, is President of the Council, and Mr. E. E. Reid, B.A., manager of the London Life Assurance Company, is Vice-President. The executive committee is composed of fifteen members, as follows: Dr. A. J. Broughton, Toronto; Dr. H. E. Eaton, Toronto; Dr. A. W. Ellis, Toronto; Dr. Eudore Dubeau, Dean of Faculty, University of Montreal, Montreal; Dr. D. J. Ferguson, Saskatoon; Dr. E. A. Grant, Toronto; Dr. C. H. Juvet, Ottawa; Dr. Arnold Mason, Toronto; Col. C. G. Nasmith, Toronto; Dr. J. F. Morrison, Winnipeg; Dr. R. J. Reade, Toronto; Dr. Wallace Seccombe, Dean Dental Faculty, University of Toronto; Dr. G. N. Stultz, Halifax; Dr. W. Cecil Trotter, Toronto; Dr. Rae Wilson, Vancouver.

Representative on Council from Red Cross—Dr. Geo. C. Nasmith, C.M.G.

Dr. Harry S. Thomson—Field Secretary.

I have the honor to be chairman of the Executive committee. Dr. E. A. Grant is Honorary Secretary, and Dr. Harry S. Thomson is the General Secretary and Field Officer. The full executive meets about once a month, and in between these meetings the work is carried on by a sub-committee, consisting of Drs. Grant, Reade, Ellis and Trotter, together with the Field Secretary, Dr. Thomson.

There is complete harmony and co-operation between the C. D. H. C., the Oral Hygiene Committee of the Ontario Dental Association and the Provincial Dental Health Officer, Dr. F. J. Conboy. Overlapping and misunderstanding is avoided by having a few men members of both committees. The conception these bodies have of the relationship and duties of the various Oral Health organizations of the Dominion is well explained by quoting the following classification of duties agreed to and adopted by both the Hygiene Council and the Ontario Oral Hygiene committee:

1. Canadian Dental Hygiene Council with its executive committee and field secretary, to look after Dominion matters; (a) Work among immigrants, foster children, Dominion institutions; (b) general educational

work in unorganized provinces and districts having in view the future organization of these same as Ontario is now organized; (c) general assistance to provinces and districts already organized such as Ontario.

2. Provincial Oral Hygiene Committee with its Secretary or Director of Dental Services:—To look after Provincial matters; (a) such as Provincial institutions, asylums, jails, hospitals, etc.; (b) to work in unorganized districts; (c) to assist local or district societies.

3. Local or District Oral Hygiene Committee with its Secretary or School Dental Officer:—To look after purely local institutions and school work and to carry on general campaign of education in their district.

According to this arrangement the C. D. H. C. is co-operating with and assisting the Oral Hygiene Committees in the various Provinces and districts outside of Ontario, having in view the ultimate organization of these provinces under a Provincial Dental Health Officer, same as in this province. Upon request from Dr. Conboy, of the Ontario Oral Hygiene Committee we are assisting with their work wherever they may find it desirable. Our Field Secretary, Dr. Harry S. Thomson, has had the opportunity of being of service in this way on several occasions, and he has also been of considerable assistance to the Toronto Academy of Dentistry in the series of lectures instituted by them to be given to the private schools of the city of Toronto. Not only does the Council hope to secure the appointment of a Dental Health Officer in each of the provinces, but also to have a Dominion Dental Officer appointed by the Federal Government at Ottawa. This officer will then not only look after Dominion institutions and matters involving the general health of the Dominion from a mouth standpoint, but will also correlate the work of the various provinces and of their provincial dental health officers.

At present we are actively endeavoring to make satisfactory arrangements whereby we may be able to secure a comprehensive mouth examination and survey of immigrants and foster children upon their arrival in Canada, with a view to having any defects cared for, thus helping to make them happy, healthy citizens of Canada.

I take this opportunity to urge every dentist to make it a point to familiarize his representative at Ottawa with objects of this Council and the Dominion-wide work it is doing towards the general improvement of health throughout Canada and with its right to share in the financial assistance annually given to similar organizations throughout our land.

We deeply appreciate the generous assistance we have received from the Ontario Dental Association, and we also have much to thank the C. O. P. A. for in the way they have so splendidly loaned us the services of Dr. Harry S. Thomson. I beg to move the adoption of this report.

Moved by Dr. H. Clark, seconded by Dr. A. W. Ellis, that Dr. Trotter's report be spread on the minutes. Carried.

President:—I shall now call upon Dr. Harold Clark to present the report of "Dentists' Legal Protective Association."

Dr. Harold Clark:—Mr. President, ladies and gentlemen: In presenting my report for the Dental Protective Association during the past year I wish first to note the great loss suffered by the association in the death of its late president, Dr. R. G. McLaughlin. It will be impossible for me to adequately take up and carry on the work he did for the association up to the time of his passing. However, with the aid of an excellent committee, I think I can assure the association that every endeavor will be made to carry on as efficiently as possible.

The work of the Association during the past year has been most gratifying. Our young profession has an object before it of vital importance that our Association will do much to achieve. In the older medical and surgical professions it is now pretty well established in law that when the practitioner in the care of his patient has taken all reasonable precautions the law does not make him responsible for any unexpected or untoward result. In short it recognizes that it would be unreasonable to expect of him the superhuman. This commonsense view of the dentist's responsibility is far from being so well established. The unreasonable and the unscrupulous patient with the suggestion and the aid of an unprincipled lawyer still believes that if any service by the dentist doesn't please him he can use the law to mulct him of a tempting sum. Every case of this kind that reaches the court and is decided in the dentist's favor helps to build up a precedent and makes the success of subsequent litigation more certain and robs the unscrupulous patient of his temptation. It is, therefore, in the interest of all of us to have all such cases that must go to court handled by counsel of outstanding ability and well known reputation. Already many have been deterred from risking the gamble of a court action against a dentist when it is learned that the case is to be strongly defended.

Where the dentist is plainly at fault it is the policy of the Association to advise him not to let his case be taken to court but to make the best possible settlement and to give him all possible help in that direction.

In Dr. MacLaughlin's report of May, 1925, he stated that during the previous year some twenty cases of a more or less serious nature were referred to the executive for assistance. Only three cases went to court. Two of them we won. The third, over which we did not have control from the beginning, was lost.

This year we are pleased to report that only three or four cases have been referred to us. The last is pending, but will in all probability be settled without court action.

It surely must be obvious to every practitioner of dentistry in the province, that the membership of the Association should include every man in active practice. Dr. Willmott will present his report on the membership and finances of the Association, and while conditions are most encouraging and gratifying, there are still many men who have not yet become members.

Moved by Dr. H. Clark, seconded by Dr. Broughton, that the report of the Dentists' Legal Protective Association be adopted and entered on the minutes. Carried.

Dr. F. C. Husband: In connection with this report, I would like to say that the success of this organization depends upon its membership, and every member of the dental profession should be a member of this Association. My remarks are based largely on the closing words of Dr. Clark's report. Every practitioner should be a member of this organization, as it is here to support the dentist, and it should also receive his support. I think when a man is about to have a lawsuit he should receive the benefits of this organization, but this cannot be arranged unless he becomes a member. If you make it a point that if the dentist should get in difficulties the organization will give its moral support but will not provide financial assistance unless he pays the required fee, it might have an effect upon increasing the membership.

Dr. Clark: You take a man who has gotten into difficulty, it is a question which should be settled in favor of dentistry. Unless the man has a good case it is best to settle out of Court. As this Association is

a young organization there are many who know very little about it. I think they should investigate this organization. They should not wait until they are in trouble to become members. We have had little legal expense during the past year. But there are two cases which are not quite settled yet.

Dr. W. E. Willmott—When the changes in the Dentistry Act were being considered by the Board, it was suggested to provide for the legal protection of the members of the profession in Ontario, but Mr. Hellmuth advised against such a provision but intimated that a section might be inserted giving the Board the right to make a grant to any organization which had for its aim the protection of its members. This was done and the Board may now make a grant to this organization. It seems to me that by a slight increase in the annual registration fee collected by the Board and by a grant to the Protective Association every practitioner in Ontario might come under its protection. As a servant of the Board I do not wish to make such a motion, but some other member might so move.

Dr. H. Clark—Under the old Act the Board would not be justified in making a grant to this organization. The Board should increase the licentiate fee and make every licentiate practising in Ontario a member of this association.

Dr. Husband—I understand by that, that you would abolish the \$3.00 in this Association.

Dr. Willmott—Yes, and increase the licentiate fee sufficiently to make every licentiate a member of this organization.

Moved by Dr. Husband, seconded by Dr. Marshall,

“That the Board of Directors be asked to consider making some arrangement whereby every licentiate in practice in Ontario should be included in the Dentists’ Legal Protective Association.”

President—I think the idea a very good one, but it should not be necessary to raise the fee to six dollars. All in favor of the motion. Motion carried.

The following were re-elected as members of the executive—Dr. Harold Clark, Dr. Wallace Secombe, Dr. W. E. Willmott, Dr. A. D. A. Mason, Dr. R. Gordon McClean, Dr. W. G. Thompson, Dr. F. J. Conboy.

Dr. Willmott, treasurer, presents the financial statement for the year ending April 30th, 1926, as follows:

RECEIPTS

Fees	\$2,115.00	
Grant Ontario Dental Association	500.00	
Bank Interest	65.03	2,680.03
Cash from last year		2,018.90

EXPENDITURES

		\$4,698.93
Printing and postage	\$78.13	
Committee expenses	14.70	
Office expenses	3.76	
Auditor’s Fee	15.00	
Bank Exchange	2.95	
Honorarium to treasurer	100.00	
		214.54

Cash on hand April 30th, 1926 \$4,698.93
(Signed) Thorne, Mulholland, &c., Auditors.

Dr. Willmott—I move that the treasurer's report be adopted. Seconded by Dr. A. W. Ellis.

President—Are you ready for the question? Those in favor of the motion. Motion carried.

I will now call upon Dr. A. W. Ellis to present his report on "Ontario Oral Hygiene Committee."

WEDNESDAY AFTERNOON, MAY 19th, 1926, 2.15 p.m.

The meeting was held in the Crystal Ball Room of the King Edward Hotel. Dr. J. C. Devitt, president of the Ontario Dental Association, presided.

President—I shall open this meeting by calling upon Dr. E. E. Bruce to present his paper on the new Dentistry Act.

Dr. E. E. Bruce—I want to first congratulate the executive committee of the organization for the fine and instructive convention which they have arranged for us. It is proving a wonderful success. I have no paper to read to you as the president has intimated, and would like to speak of a few things in a rambling way before touching on the Act. These may not all be new to you, but outside of the Board there are few I think who realize the momentous things which have happened in connection with dentistry in the last couple of years. The profession has progressed not only from a scientific standpoint but in the matter of public recognition. When the present Ontario government saw fit to give us representation in the Public Health Department, it was an advanced step, and the appointment of Dr. Conboy to act in that capacity, we must all admit, meets with general approval. He seems to be the man typically fitted for the work, full of pep and organizing ability and sound judgment, and the Department is most fortunate in having secured his services.

In passing let us touch briefly on the point of the University taking over the Faculty of Dentistry. This result was inevitable, and the vote being almost unanimous shows that the profession thought the time had come for the change. Under the circumstances the first year would of necessity be a year of adjustments, and while a few difficulties may have been experienced by the faculty, we hope to see these overcome in the near future.

The decision re dentists advertising as given about a year ago was a very important one to the profession. The Board felt that this question had to be decided and forced the issue. The Discipline Committee was of necessity forced to do much work for some time past, and their efforts deserve mention. The work of this committee is somewhat of a police nature and so, distasteful to any one of finer feelings. It is also absolutely necessary to keep dentistry on the status it should be and at the same time protect the public. Much credit must be given to Dr. Gordon McLean for the manner in which he handled this work and the time and energy he has given for the general good. Very few men realize the sacrifice that has taken place on the part of the chairman, Dr. McLean, and also his committee.

Now for the New Act. I shall refer to the changes and try to present them briefly, as it is a dry subject to handle in an interesting manner. The taking over of the Faculty of Dentistry by the University of Toronto necessitated some changes in our Act. Your Board felt that under the circumstances a general revision of the Act might be wise, and so a

strong committee of the Board was appointed for that purpose. The best of legal advice was obtained, and after much deliberation, consultation, and hard work on the part of the men on this committee, we have to report the Act as we have it to-day. I would not care to pass this subject without paying a just tribute to the chairman of this committee, Dr. Mason, and the man from Hamilton they call the "Colonel." I would like to take off my hat to them, as it is owing to their efforts largely that we have an Act which is a model for any province or state to go by. To all who assisted in this work we wish to render thanks. The committee in their deliberations had in mind the protection of the public as well as ourselves. It is by the grace of the Ontario Legislature, or in other words the public, that we enjoy the privileges we do as a profession.

Now the Bill that was passed by the Legislature is changed as follows:

Down to Section 4 there is no change. Taking Section 4 and Sub-Section 2 you will notice the old Act called for eight members. The change is to nine instead of eight.

Then in Sub-Section 3 of Section 4, instead of four the number is five required to form a quorum.

Section 4 combines Sub-Sections 3 and 4 of the old Act. Section 4, sub-section 5, one member from Faculty of Dentistry in University of Toronto, instead of from Faculty of School of Dentistry. Sub-Section 6 of Section 4 provides "Combines old Sub-Section 6 and Section 7 (a) provides for election to fill vacancy in a district, instead of vacancy being filled by remaining members of Board; (b) same as old sub-section 6.

If you will go back to Section 5, Sub-section 2, where the change has been made to nine instead of eight members, this was occasioned by one additional district, North and West of Parry Sound. Very rapid increase in the number of dentists in that district is responsible for this change. When the present districts were outlined there were 5 North and West of and including Parry Sound. Now there are 102.

Section 6, Sub-section 3—There were 4 lines struck out as power is sufficient under Sub-section 4.

Section 7, Sub-section 3, gives President power to call special meeting of the Board. The old section required the request of four members before he could do so, and this was often very inconvenient.

Section 8, Sub-section 4, provides for an Executive Committee which may attend to emergency matters, instead of calling whole Board together. All organizations have such a committee.

Section 9—the old 10 was limited to \$20.00. This amount is now to be set by a By-law.

Section 10, Sub-section 2—"The Board may out of any funds in its hands from time to time make grants:

- (a) for post graduate courses and kindred educational extension work.
- (b) for scholarship, lectureship and research work; and
- (c) in aid of any fund which has for its purpose investigation in the interest of dental and surgical science; and

(d) in aid of any association or other body having for its object the protection of members of the college or the adjustment of claims against them for anything done in their professional capacity.

This is to allow grants to be made for the advancement of Dental research or for good of the members of the College. Same as Amendments to Medical Act.

Section 12, Sub-section 2, was "Prior to entering into Articles with a Licentiate—" practically the same thing now.

Section 14. There are certain lines struck out of the old Section 15 as not being necessary.

Section 16, Sub-section 5—To enable the Board to accept examinations of Faculty of Dentistry in University of Toronto.

Section 20. Here there is no change in the meaning. It is only reworded in order to clarify the meaning.

Section 21, Sub-section (1) Reworded from old 24—range of \$1.00 to \$3.00 not sufficient to enable proper administration and is now same as Medical Act.

Section 21, Sub-section (3). To facilitate collection of fees and is similar to provisions in Solicitors' Act. Also in other Provinces and States as follows:

ANNUAL REGISTRATION

State	Penalty if not paid by certain date	Additional Fee to be restored to good standing
California	License forfeited	\$25.00
Connecticut	Suspension	25.00
Delaware	Cancelled	5.00
D. C.	Illegal Practitioner	5.00
Idaho	Illegal Practitioner	10.00
Indiana	Cancelled	5.00
Kentucky	Cancelled	5.00
Nebraska	Cancelled	\$10.00 to \$50.00
New Jersey		Fined \$300 to \$600
New York	Illegal	\$1.00 day for 30 days
Manitoba	due March 1—\$10.00. If paid by February 1st, \$5.00. After March 1—illegal practitioner may be suspended for 6 months and fine \$50.00 and additional \$50.00 for reinstatement.	
B. C.		50.00
Proposed		
Ontario	Cancelled	10.00

Section 22, Sub-section 1—Old 25 (1) redrafted and the last five lines added. "A practice has grown up of laboratory men attempting to carry on work, as mechanical and other kinds of dentists and thus by misleading advertisements induce people to come to them for work which they are not capable of doing. This is necessary for the proper protection of the public.

Section 22, Sub-section (2) for the purpose of eliminating fake dental schools and confines dental training to the College and a University Faculty.

Section 22, Sub-section (3) makes fine definitely \$50.00 and \$100.00 instead of not exceeding \$50.00 and \$100.00.

Penalty For Practising Without License

California—\$100 to \$1,000 or 10 days to 1 year or both.

Connecticut—To \$100 or a 6 months term or both.

Delaware—\$50 to \$200 or 1 month to 1 year or both.

D. C.—\$100 to \$200; 2nd offence to \$500.

Florida—Up to \$1,000 or to 1 year or both.

Idaho—\$50 to \$200 or 6 months or both.

Illinois—\$50 to \$200 each offence.
Indiana—\$50 to \$150 or 30 days or both.
N. J.—\$300 for 1st. \$600 for each subsequent.
N. Y.—\$100.
Saskatchewan—\$50 to \$200 for 1st; \$100 to \$400 for each subsequent.
Quebec—\$50 to \$100 for 1st; \$100 to \$200 for 2nd; and \$200 to \$500
for each subsequent.
Alberta—\$50 to \$200 for 1st and \$400 each subsequent.
Manitoba—\$50 to \$200 for 1st and \$400 each subsequent.
B. C.—\$25 to \$500 for 1st and \$100 to \$500 for subsequent.

THE ONTARIO DENTAL ASSOCIATION BALANCE SHEET
(May 31st, 1926)
ASSETS

Cash on hand	\$ 24.75
Cash in bank	7,383.16
Dominion of Canada Bonds, \$2,000.00, 4½%, 1940.....	1,945.00
Accounts Receivable	499.66
Accrued Bond and Bank Interest	95.15
Office Furniture	57.00
	\$10,004.72

LIABILITIES

Accounts Payable	\$ 2,347.67
Surplus	7,657.05
	\$10,004.72

SURPLUS ACCOUNT

(Period from September 17th, 1925, to May 31st, 1926)

Balance, September 17th, 1925	\$6,788.85
Interest on Savings Account to July 31st, 1925, not previously taken into account	18.02
Exhibit Committee Revenue, unpaid accounts 1925 convention..	124.00
Net Revenue for period, brought forward	726.18
Balance, May 31st, 1926	\$7,657.05

STATEMENT OF REVENUE AND EXPENDITURE
(Period from September 17th, 1925, to May 31st, 1926)

REVENUE

Publicity Committee, "Booster"	\$1,329.26
Registration Committee, Fees	5,410.00
Exhibit Committee, Space	2,699.00
Entertainment Committee	1,201.02
Interest on Bonds	52.41
Interest on Savings Account	94.05
	\$10,785.74

EXPENDITURE

Publicity Committee:

Booster	\$883.75	
Announcements and Programmes	103.96	
Cuts and Sundries	45.83	1,033.54

Registration Committee		244.48
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Exhibit Committee:

Cost of Space	385.00	
Expenses	90.46	475.46

Entertainment Committee	1,922.37	
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Arrangement Committee	188.55	
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General Committee	146.55	
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Clinicians:

Fees	1,932.50	
Expenses	364.28	2,296.78

Grants and Donations	2,700.90	
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Salaries	587.50	
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Postage	122.88	
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Office Stationery and Expenses	321.95	
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General Association Expenses	29.50	
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\$10,059.56

<i>Net Revenue for period, carried to Surplus Account</i>	726.18	
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\$10,785.74

ACCOUNTS PAYABLE

(May 31st, 1926)

King Edward Hotel Co., Limited	\$1,841.89
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Hart House	81.45
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Romanelli's Orchestra	180.00
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Thorne, Mulholland, Howson & McPherson	125.00
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Frank Oldfield	25.00
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Miss Jackson	25.00
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W. J. Hoath	21.50
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Dr. A. E. Webster	19.20
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Mrs. L. E. Edmondson	12.50
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B. H. & F. M. Brown, Limited	8.40
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City Storage Co., Limited	5.65
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Grand & Toy, Limited	2.08
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\$2,347.67



Ammoniacal Silver Nitrate and Formalin

THE THEORY AND FUNCTION

Ammoniacal Silver Nitrate coagulates healthy albumen as soon as it comes in contact with sound tissue. But wherever albumen has been digested or destroyed by bacteria, the Silver Solution is taken up. This is why it is sometimes termed a selective method, for it is self-limiting, not entering healthy tissues.

The Silver Solution will cause cauterization of soft tissue, which is desirable where bacterial toxins are being combated—in Pyorrhetic pockets or after extraction of a tooth which is abscessed. The cells beneath will throw off this surface, resulting in rapid regeneration and healing. Nature takes care of the soft tissue after infected cementum is sterilized.

The Silver Solution does not discolor sound tissue, but infected tissue is stained black. The stain is removed by the use of Bleaching Solutions.

There are many agents used in pulpless teeth which produce comfort and cause regeneration of tissue beyond the root end. These results can be brought about and still the tooth will not be in a sterile condition. This is the reason why the odor is foul, when a tooth which has been treated is opened. The canal filling itself usually becomes infected.

In the long list of achievements in dentistry, Ammoniacal Silver Nitrate and Formalin without any question occupies an important position. Only a few years ago the practice of the physician was, when in doubt, to extract the teeth. The number of teeth extracted during the period when this wave swept the country was appalling. The radicalism which swept over the medical and dental professions, resulting in troublesome rep'acements, is a great sorrow in the lives of many adult people today.

*(Stevens)

There is now a different attitude of mind. These conditions, their causes and treatments, clearly emphasize that a serious mistake had been made.

When this method of using Ammoniacal Silver Nitrate and Formalin was announced, progressive dentists accepted the theory as sound; still there were men, who seem judicious in other respects, who silently refused to be interested. It is sometimes a great task to break habits which have been in common practice. There has been much unnecessary scraping, cutting and drilling, which has been harmful.

Physicians agree that fresh air, rest and diet should have more consideration, for the sick can and do recover of their own vital power under correct conditions.

After an abscessed tooth is treated with Ammoniacal Silver Nitrate and Formalin, it is placed in the condition it was in before the tooth abscessed. That is, a sterile condition. The area beyond the root end providing the reparative forces and forces of immunity function, is then taken care of by nature. It need not be sterilized.

In putrescent conditions, Ammoniacal Silver Nitrate and Formalin will sterilize the putrescent pulp without its removal, and penetrate the infected material in the tubuli.

Perhaps the best illustration of its value in pulpless teeth is an infected molar tooth, in which there are shreds of live tissue in one canal, putrescent matter in another, and pus in the third. The solutions are applied to all three conditions in the same way,—the result is the same in each canal. The tooth is rendered sterile.

Reports are made that the health of patients is restored by extracting diseased teeth. But reports are not made when the health of the patient has not been restored. It is perfectly well known that there are just as many cases where extraction of the teeth has done no good.

Another curious situation is that when a diseased anterior tooth is treated, an effort is made to save it. But the posterior tooth is extracted without the least effort being made to save it, the claim being made that the posterior tooth endangers the health of the patient.

There is no mystery why sound teeth, or teeth which can be made safe and useful, are extracted, and why the high principles of the profession are cast aside in so many instances. This sort of practice may temporarily make more money, but it can never be the means of permanent business. One of the most common reasons given for not treating pulpless teeth is the lack of financial remuneration for the time spent. Recently a dental office with a large number of operators boasted that in six months' time the office had extracted 20 pounds of gold scrap.

If conditions can be reversed, and if the best fees in the office are those for treating and actually saving teeth, the useful teeth which are now removed needlessly would be saved. Possibly then the most harm would be done in trying to save teeth which ought to be removed.

People want their own natural teeth. When the true value of a tooth as an integral factor in the oral machine is recognized, other matters will automatically adjust themselves.

* * *

Theory has been the guide very largely in the past, but theory does not deal with facts or difficulties, only with hopes and desires. There is but one sure way to tell one good theory from another—that is, by laboratory tests. Laboratory work retains its value. Theory is uncertain. The most clever dentist cannot know the depth of bacterial invasion, where sound tissue begins and ends, nor how many openings there may be at the root end.

A fully developed pulpless tooth receives its nourishment through the blood supply of the peridental membrane. It is not dependent upon the blood of the pulp. Dr. Box of Toronto has shown conclusively that the nutrition of the cementoplast is derived from the perivascular tissues of the teeth. Therefore, a tooth does not become foreign body when its pulp has been removed.

The form in which progress in dentistry reaches its highest possibilities is prevention of disease entering the tooth. Remarkable advancement has been made in this field.

Next in importance is elimination of infection which has become established. The illustration on the first page points out that in pulpless teeth, in deep cavities with pulp involvement, and in Pyorrhea, it is dentine and cementum which must be sterilized.

Ammoniacal Silver Nitrate and Formalin will sterilize both. It will penetrate the infected dentine through infected cementum, or it will penetrate infected cementum through infected dentine, and materially aid in saving pulps and saving teeth,—a present-day problem.

Minutes of the Annual Meeting of the Alberta Dental Association, held at the Macdonald Hotel, Edmonton, July 5th, 1926

The meeting was called to order at 9.30 A.M. President A. B. Mason was in the chair. Present: Dr. A. B. Mason, Dr. Leslie McIntyre, Dr. A. E. Henniger, Dr. M. L. Moore, Dr. John Clay, Dr. L. T. Allen.

The minutes of the last meeting were read by the Secretary. Moved by Dr. Henniger, seconded by Dr. Allen, that the minutes be adopted as read. Carried.

The report of the hygiene committee resulted in the committee being discharged and a vote of thanks tendered them on motion of Dr. Clay, seconded by Dr. Allen.

The discussion on this question showed a decided wish to see this work continued, and in order to carry it on a new committee of Drs. Upton and Macauley in Calgary, Dr. McNichol in Medicine Hat, Dr. L. T. Allen of Lethbridge, and Drs. Haynes and Knight of Edmonton, and Dr. Scott of Vermilion, was formed. The sum of \$100.00 for each of the five districts was placed at their disposal.

The report of the committee on the Workmen's Compensation Act was received. Owing to the attention of the Association being concentrated on the saving of the Dental Act, little had been done. It was moved by Dr. Allen, seconded by Dr. Moore, that Dr. Clay be the head of the committee to enquire into the possibility of getting better relationship with this Board. Carried.

Moved by Dr. Clay, seconded by Dr. Allen: That the Secretary be instructed to cast a ballot for each of the gentlemen whose names appeared on the ballots. This was done and Dr. M. L. Moore, Dr. A. B. Mason and Dr. A. E. Henniger were declared elected to the Board for a two-year term.

Moved by Dr. Moore, seconded by Dr. Clay, that the Secretary's report re the financial arrangements in connection with Alberta's joining the Western Canada Dental Association be accepted, and the Association recommends that the Board support this organization to the extent of \$200 a year.

Moved by Dr. Moore, seconded by Dr. Henniger, that the report of the committee on clinics be accepted and that Dr. Deforest Davis be routed to Medicine Hat for Sept. 27th and 28th; Lethbridge, Sept. 29th and 30th; Edmonton, October 4th and 5th; and Calgary, October 7th and 8th. The arrangements to be left in the hands of the local societies. Carried.

Moved by Dr. Allen, seconded by Dr. Henniger, that one present up to a cost of \$100.00 be purchased for the Clinician at the expense of the Association. Carried.

Moved by Dr. Clay, seconded by Dr. Moore, that the financial report of the Secretary be passed. Carried.

Moved by Dr. Henniger, seconded by Dr. Allen, that the letter from the Medicine Hat Society be filed in view of the fact that some changes in relation to ethics and advertising are being formulated. Carried.

Moved by Dr. Allen, seconded by Dr. Moore, that the Association meeting adjourn.

Minutes of the Meeting of the Board of Directors of the Alberta Dental Association, held at the Macdonald Hotel, Edmonton, Monday, July 5th, 1926

Meeting called to order at 11.45. Dr. A. B. Mason, President, in the chair. Present: Dr. A. B. Mason, Dr. Leslie McIntyre, Dr. M. L. Moore, Dr. L. T. Allen, Dr. A. E. Henniger, Dr. John Clay.

The minutes of the last regular and one emergency meeting were read by the secretary. Moved by Dr. Clay, seconded by Dr. Allen, that the minutes be adopted as read. Carried.

Moved by Dr. Henniger, seconded by Dr. Moore, that we validate the Association meeting and accept its recommendations. Carried.

Dr. Mason reported on the interpretation placed on our recommendation to the University regarding Class A. schools being the only ones whose graduates be accepted in Alberta from 1926 on. The University's, and Board's, interpretation being alike, everything was reported as satisfactory.

Moved by Dr. Henniger, seconded by Dr. Moore, that the committee be discharged and thanked. Carried.

On the recommendation from our Board to the University regarding admittance of men from Quebec, Dr. Mason reported that a committee consisting of Dr. Tory, Dr. Rankin, Dr. Bulyea and Dr. Mason had been appointed to get in touch with the Quebec Dental Board and see if they would not amend the objectionable section of their Act, and failing this action from Alberta would result.

The secretary reported that the Lees' Appeal to the Privy Council had been withdrawn and the case closed.

Moved by Dr. Clay, seconded by Dr. Allen, that the Board accept the new certificate form as presented by the committee, get a plate cut with the addition of the new words (in each and every year) inserted after (annual fee), get a supply printed and issue to anyone registering after this date and to those already registered as members of the Association, when requested to do so, said request to be accompanied by proper credentials. Carried.

Legislation committee reported and thanked.

Moved by Dr. Clay, seconded by Dr. Henniger, that Dr. Leslie McIntyre and Dr. A. B. Mason be on a new committee and that these two appoint three other members with them on this legislation committee. Carried.

Moved by Dr. Clay, seconded by Dr. Moore, that the suggested new By-laws, as below, read by the Secretary be accepted. Carried.

"Proposed Amendments to By-laws, Alberta Dental Association."

Section on Discipline:

No member of the Alberta Dental Association shall practise his profession subject to the authority or control expressed or implied of any person not a member of the said Association.

"No member of the Alberta Dental Association shall use the title of 'Specialist,' or hold himself out to the public as being a specialist, or use the term 'specializing in,' or any other title of a similar nature, or claim superiority over other practitioners in any branch of dental surgery unless the Senate of Alberta University has certified that such member possesses the necessary qualifications to so practise.

"No member of the Alberta Dental Association shall directly or indirectly publish or circulate any fraudulent or misleading statement as to the skill or method of any person or operator; or in any way advertise to practise dentistry without pain, or advertise in any other manner with the view of deceiving or defrauding the public, or in any way that will tend to deceive the public; to use or advertise as using any drugs, material, formula, medicine, device, system or anaesthetic which is either falsely advertised, misnamed, or not in use.

"No member of the Alberta Dental Association shall publish, use, or issue any advertisement, card, handbill, poster or sign calling attention to particular styles of work or special modes of operating, nor claim superiority over other practitioners, nor publish testimonials. Nor shall any member of the Association in any way advertise any operations or services as free of charge, or state prices or fees for services, work or materials, or in any manner draw attention to a comparison of his fees or prices with those of any other practitioner. Nor shall any member of the Association advertise or promise to guarantee his work or material."

Moved by Dr. Moore, seconded by Dr. Henniger, that a committee of five be appointed to investigate a charge of unprofessional conduct, and if more than two refuse, the President and Secretary act or appoint other members to the committee.

Moved by Dr. Clay, seconded by Dr. Allen, that in view of the fact that Dr. L. McIntyre is on a committee to go into the question of malpractice insurance for the W. C. D. A., he report to our Board on the information obtained. Carried.

Moved by Dr. Clay, seconded by Dr. Moore, that in view of the resolution from the Medicine Hat Dental Society, the Secretary get in touch with the Secretary of the Manitoba Board and ascertain concerning the present status of the case. Carried.

Dr. Clay brought up the question of the Classes in the D. D. C. to ascertain the opinion of the men on the advisability of eliminating some of them.

The misunderstanding between the Medical Board and our Board over Dr. Massicott's insisting that his medical license allowed him to practise dentistry, particularly the filling of teeth, drew out the following:

Moved by Dr. Clay, seconded by Dr. Henniger, that the Secretary be instructed to see that the Massicott case is held in abeyance till an attempt is made to arrive at an interpretation of the privileges and restrictions imposed on medicine and dentistry by the Medical and Dental Acts. That the Secretary-Treasurer Registrar of the Alberta Dental Board write to the Registrar of the Medical Council for Alberta and inform him that the Dental Board finds it unable, of itself, to interpret the Medical and Dental Acts as they relate to either the restrictions or privileges imposed or allowed the members of the Medical and Dental Associations under these two Acts.

That the Secretary of the Alberta Dental Board write to the Registrar of the Medical Council and express our willingness to have a committee of the Dental Board meet with a committee of the Medical Council to consult on an interpretation of the Acts, and failing a mutually satisfactory undertaking, to lay the matter before the Courts for a decision.

Moved by Dr. Clay, seconded by Dr. Allen, that a vote of thanks be extended to the Secretary and President on their work during the past Session of the Alberta Legislature and that this resolution be *spread* on the *Minutes*.

The election of officers resulted in:

Dr. L. T. Allen being declared President,

Dr. A. E. Henniger being declared Vice-President,

Dr. Leslie McIntyre being declared Secretary-Treasurer-Registrar.

Moved by Dr. Mason, seconded by Dr. Moore, that the meeting adjourn.

Dominion Dental Council Examination Results

The following have passed their Dominion Dental Council examination on the following subjects:

Pathology and Bacteriology—W. E. Addinell, Stanley Bagnall, Wm. J. Blackburn, E. C. Butcher, E. W. Connell, S. Cross, J. H. Dougall, C. S. Endicott, J. W. Gerrie, Wm. E. Hainer, S. W. Holt, J. R. Hoag, Wm. R. Hughes, E. L. Kennedy, A. R. Montgomery, R. E. McBroom, W. J. Olmstead, A. W. Phin, I. G. G. Polack, C. A. Porter, S. E. Stark, W. G. Thomas, G. B. Thurston, E. H. Urie, J. B. Wilkes.

Pathology only—Lois Adams, F. H. Cowan, P. Hutzulak, H. J. Kennedy, Wm. B. Milburn, T. G. McCarthy, H. W. Reeves.

Bacteriology only—M. L. Stett, Donald Smith.

Jurisprudence and Ethics—Lois Adams, W. R. Addinell, Wm. J. Blackburn, E. C. Butcher, E. C. Connell, F. H. Cowan, S. Cross, J. H. Dougall, C. S. Endicott, Wm. E. Hainer, J. R. Hoag, Wm. R. Hughes, P. Hutzulak, E. L. Kennedy, H. J. Kennedy, Wm. B. Milburn, R. E. McBroom, W. J. Olmstead, A. W. Phin, H. W. Reeves, S. E. Stark, W. G. Thomas, G. B. Thurston, E. H. Urie, J. B. Wilkes.

Jurisprudence Only—T. G. McCarthy.

Anatomy—Wm. R. Aunger, H. E. Barker, Wm. J. Blackburn, Edward M. Box, R. N. Brownlow, R. R. Butler, H. A. Claman, Lloyd Davis, H. A. Galasky, J. W. Gerrie, F. Gowda, Wm. E. Hainer, Geo. M. Hawlin, S. W. Holt, C. Husband, E. L. Kennedy, H. R. Konkle, R. S. Langstrath, A. B. Morrow, T. G. McCarthy, S. L. Portigal, H. B. Powell, Marian Priest, F. M. Roulston, Donald Smith, Wm. G. Snodgrass, A. A. Somerville, F. J. Stogell, S. K. Wetmore, G. W. Whitaker, O. B. Whitman.

Physiology and Histology—Wm. J. Blackburn, Lloyd Davis, G. M. Dewis, J. H. Dougall, H. A. Galasky, J. W. Gerrie, F. Gowda, S. Holt, C. Husband, E. L. Kennedy, A. Leith, R. V. Little, A. B. Morrow, C. A. Porter, H. B. Powell, Donald Smith, Wm. G. Snodgrass, J. B. Wilkes.

Physiology (only) — J. F. Brock, H. A. Carman, L. D. Carmichael, O. J. Davis, J. C. Dempster, J. A. Grant, N. H. Greenberg, G. C. Hare, L. D. Hasleton, J. R. Hoag, A. W. Irwin, J. C. Lindsay, H. M. Robb, J. E. Tilson, C. E. Toll.

Histology (only)—Wm. R. Aunger, H. E. Barker, E. M. Box, R. N. Brownlow, R. K. Butler, B. C. Claman, C. S. Endicott, G. N. Hawlin, G. M. Johnson, Geo. Kingman, H. R. Konkle, R. S. Langstrath, S. L. Portigal, Marian Priest, F. M. Roulston, C. L. Skinner, F. J. Stodgell, S. K. Wetmore, G. W. Whitaker, O. B. Whitman.

Anaesthetics—Wm. J. Blackburn, E. C. Butcher, E. W. Connell, J. H. Dougall, C. S. Endicott, S. W. Holt, J. R. Hoag, E. L. Kennedy, H. R. Kerr, A. R. Montgomery, R. E. McBroom, W. J. Olmstead, A. W. Phin, I. G. G. Polack, C. A. Porter, G. C. Squire, S. E. Stark, M. L. Stett, W. G. Thomas, J. B. Wilkes.

Materia Medica Therapeutics—Lois Adams, W. E. Addinell, Stanley Bagnall, Wm. J. Blackburn, E. C. Butcher, H. A. Carman, O. J. Davis, J. C. Dempster, J. H. Dougall, C. S. Endicott, J. A. Grant, N. H. Greenberg, Wm. E. Hainer, Geo. C. Hare, L. D. Hasleton, S. W. Holt, J. R. Hoag, A. W. Irwin, E. L. Kennedy, J. C. Leith, J. C. Lindsay, C. A. Porter, A. W. Phin, H. M. Robb, Wm. G. Snodgrass, G. C. Squire, C. E. Toll, J. E. Tilson, J. B. Wilkes.

Therapeutics (only)—Flora Cowan, Sydney Cross, R. W. Hughes, H. J. Kennedy, Wm. B. Milburn, R. E. McBroom, S. Ellen Stark.

Prosthetic Dentistry, etc., and Orthodontia—W. E. Addinell, Wm. J. Blackburn, E. C. Butcher, S. Cross, J. H. Dougall, C. S. Endicott, Wm. E. Hainer, J. R. Hoag, Wm. R. Hughes, P. Hutzulak, H. J. Kennedy, H. R. Kerr, Wm. B. Milburn, A. R. Montgomery, T. G. McCarthy, W. J. Olmstead, A. W. Phin, C. A. Porter, S. E. Stark, W. G. Thomas, G. B. Thurston, J. B. Wilkes.

Prosthetic Dentistry (only)—Flora Cowan, Lois Adams.

Orthodontia (only)—E. W. Connell, H. W. Reeves.

Medicine and Surgery—L. Adams, W. E. Addinell, Wm. J. Blackburn, E. C. Butcher, E. W. Connell, Flora Cowan, S. Cross, J. H. Dougall, C. S. Endicott, J. W. Gerrie, Wm. E. Hadner, J. R. Hoag, Wm. R. Hughes, P. Hutzulak, E. L. Kennedy, H. J. Kennedy, Wm. B. Milburn, R. E. McBroom, T. G. McCarthy, W. J. Olmstead, A. W. Phin, C. A. Porter, H. W. Reeves, S. E. Stark, W. G. Thomas, G. B. Thurston, E. H. Urie, J. B. Wilkes.

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Vol. XXXVIII

TORONTO, AUGUST, 1926

No. 8

How to Calculate the Value of a Service

There is a good deal of confusion entering into discussions of wages, salary, income, interest rates, earning power, etc. Since the advent of labor unions and specially protected industries, tariffs, etc., the notion has gained ground that the laborer must get a living wage and the money lender is entitled to a paying percentage on his investment. It doesn't seem to matter whether the employed earns his wage, or the employer makes a profit, or the investor makes a poor investment or not, all must get what they expected to get. It does not seem to enter into the minds of those holding such views that some one must bear the penalty of every error of judgment and every fault in execution.

When a young man learns to lay bricks the present school of thought would indicate that some one must supply him with work at laying bricks at a living wage no matter if no one wants bricks layed. Failing this either bricklayers or the public must give them a living.

The money lender holds this same view, as was indicated in the Dominion government's action in adjusting railway rates. The rates are based on what they deem to call a basic fundamental principle (the investor is entitled to 6% on his money). So we in Canada must pay such railway rates as will make 6% on the money lender's investment, no matter whether the road serves any useful purpose or not or whether the investor made a poor investment or not.

This same kind of teaching has entered the dental profession. The plan of how to determine a dental fee goes somewhat as follows: Add together the cost of a dental education, equipment, rent, heat, light, materials, taxes, salary and profits, and divide it by the number of working hours in a year, to determine what to charge per hour. In this calculation there does not seem to be any notice taken of the fact of the public's ability to pay or the value of the services to the person receiving them. It seems to be enough to say that the dentist is entitled to get a profit above all his expense. There is no thought of the possibility of the dentist having made a mistake in entering the profession or his being too extravagant in all his undertakings. The real basis of determining a salary or fee is the value of the services to whom they are rendered and not as a right because they happen to have entered such a trade or profession.

The Dental Society of Western Canada will hold its next meeting in Edmonton.

Dr. Horace E. Eaton, Toronto, died suddenly July 23. He was at his office the day before his death. An extended obituary will appear in these columns.

The fees for medicine in the University of Toronto have been raised from \$150 a year to \$200. This latter amount more nearly corresponds to the fees in dentistry and medicine in other Universities.

Dr. James Lee Benson, pioneer dentist of Winnipeg, died Saturday, July 3rd, at the Winnipeg General Hospital, after an illness extending over three months, in the 77th year of his age. A native of Peterborough, Ontario, Dr. Benson came to Winnipeg 45 years ago. Not only was he at one time the most prominent in the local dental profession, having been the first elected president of the Manitoba Dental Association, but he was also among the leaders as an owner of fast horses. He was distinguished as the sportsman who brought the first thoroughbred racer, the celebrated "Sharper," to Winnipeg. When the gold fever with the Klondike discoveries prevailed, he was one of the first to try his fortune in that direction, and he remained seven years in the vicinity of Dawson City.

Dr. Benson is survived by a son, Dr. J. L. Benson, of Winnipeg; three daughters, Mrs. Helen O'Laughlin, of St. Paul, Minn.; Mrs. Mabel Boxer, of Winnipeg, and Miss Grace Benson, also of Winnipeg.

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Dominion Dental Journal

Vol. XXXVIII

TORONTO, SEPTEMBER, 1926

No. 9

ORIGINAL COMMUNICATIONS

The Cohesive Gold Filling

T. C. TRIGGER, D.D.S., ST. THOMAS, ONT.

The value of gold foil fillings in the restoration and preservation of the teeth is well known, possessing as they do many qualifications as an ideal filling. Owing to its toughness, pliability and softness renders it very adaptable to the walls of the cavity.

This material has, however, one objectionable feature as to color, but it is a well known fact that some individuals tolerate this material very well, while to others it presents an objectionable feature. The ideal filling material so far has never been accomplished, in this respect it must possess a number of qualifications, namely indestructibility not only to the fluids of the mouth but mechanical attrition, air tight, a non conductor, capable of any degree of colouring, the highest therapeutic value and also capable of being formed to match the different shades of the natural teeth.

Gold foils used in the filling of teeth are known as non-cohesive and cohesive. These terms are used in a qualitative sense. Non-cohesive will not unite under the process of cold welding, while cohesive gold as its name applies has this remarkable quality.

Great care should be taken in the care of these golds and should be thoroughly protected from moisture or to atmospheric conditions. Cohesive gold exposed for some time to the air will become non-cohesive, and if non-cohesive gold becomes thoroughly annealed it is rendered cohesive.

In 1853 Dr. Watts introduced to the profession his new form of cohesive gold known as Sponge gold, and since that time has become greatly improved and now is known as "Crystal Gold".

This gold possesses great cohesive property and is successfully used in large contour restorations.

This form of gold should be used in small pieces and every particle should be thoroughly condensed by properly formed instruments.

Crystal mat or Solila gold has certain good qualities, but it is not so readily worked as what is known as Sponge Gold.

Another form of gold, Moss Fibre, was introduced at a later date, in 1898. It is exceedingly soft and very cohesive, possessing these qualities much greater than any form of sponge gold offered operators. Certainly there are some good features in the manipulation of this gold, being readily adapted to the walls of the cavity and allows extensive contour restoration and when completed the filling is hard, free from pits and will take a very high polish.

Special condensing instruments, of course are required, such as those designed by Briggs, Royce, and Watkins.

Extensive contour operations can be made more easily than any form of crystal gold. Do not heat this gold over a flame as over-heating will interfere with the proper working of the gold—of course with the modern electric tray allows the gold to be annealed to perfection.

In constructing cohesive gold restorations the floor of the cavity should be condensed as level as possible, so as not to have any depressions which are very difficult to properly fill and also may eventually cause a defect in the filling.

Better results are obtained if small pieces of gold are used, as better condensation is obtained, for if large pieces are used they are liable to "Ball" under pressure.

By proper cavity preparation and thorough condensation of every particle of gold together with perfect finish you have reached as nearly as possible an ideal filling.

I am pleased to see at the present time, notwithstanding the more recent introduction of Synthetic porcelain, still some excellent cohesive gold fillings being inserted, but the operators seem to become fewer every day.

I have a number of extracted teeth, which I have filled as well as other operators from patients who were advanced in years, necessitating the removal of all the teeth. Most of these fillings are in excellent condition and have been in service from 15 to 30 years.

The value of cohesive gold fillings has been more assured to me as time went on, for Dr. Lowe Young, New York City now one of the leading Orthodontists of the profession, inserted a filling in one of my teeth, when we were indentured as students in the same office—this certainly proved to me the stability of the cohesive fillings.

At a meeting of the Elgin Dental Society, Dr. C. B. Taylor, a careful and considerate operator urged the members, especially the young practitioners present, to devote more attention to the filling of teeth with cohesive gold, as being perhaps the best filling we can recommend to our patients.

The late Dr. E. A. Teskey, whom I studied with, was a strong advocate of the cohesive gold fillings, this was due no doubt at that time, to the recent introduction of this form of gold for filling teeth.

While I was with him we were filling teeth with non-cohesive foil, which with proper manipulation made a remarkable filling. The older dentists who have used the non-cohesive gold appreciated the introduction of the cohesive foil. In fact many thousands of teeth were saved, as the operation of filling became considerably much easier and the dentist began to recommend this filling to his patients.

Similar events have happened in the history of Dentistry, take, for instance the introduction of Nitrous Oxide and the discovery of dental vul-

canite for artificial teeth and more recently the gold inlay.

Non-cohesive gold was for a long time the only foil filling used, and we look back to those early operators now with considerable pride at the marvellous restorations they made with this material. Men like Westcott, Maynard and others.

Dr. Marshall Webb readily took to the cohesive gold foil, as this eminent operator had no peer in his day in making extensive restorations and in developing this filling to a high degree of perfection.

By the introduction of cohesive gold all kinds of cavities were filled successfully, whereas with the non-cohesive foil its application was more limited, such cavities with four or three walls. Owing to the remarkable softness of this form of gold it does not "Ball" under the instrument.

A short time ago on a visit to the Royal College of Dental Surgeons infirmary, I had an opportunity of seeing the students operating. Many of the students were operating on gold inlays while only a few were inserting cohesive gold fillings.

It impressed me that considerable attention was given to gold inlay operations. This may be due to the comparatively recent advent of this method of filling teeth and a desire to be able to carry out this method of filling teeth after going into practice.

I observed that many cavities were prepared for gold inlays and particularly no special cavities were selected specially in the restoration of cavities in the anterior teeth.

There should be judgment exercised in selecting these fillings to the anterior teeth, as a number of cases I notice that the cohesive filling would be more preferable.

In anterior teeth where there is considerable loss of tooth structure, take for instance improximal cavities involving the incisial edge, and where grooving and pitting would have to be carried out to a great extent in order to secure retention of the filling, and also in where partial or complete loss by decay or fracture, the gold inlay is recommended.

In these cases retention may be more complete by the addition of pin attachment, thus securing the inlay from the great pressure which these fillings are subjected to. Even in these cases fillings of cohesive gold may be carried out successfully.

In the above cases mentioned it would be impossible to successfully fill these cavities with synthetic porcelain as these fillings are not known to have sufficient stability to resist stress on such large areas.

Long before the introduction of synthetic porcelain and the gold inlay, the cohesive gold filling was the only permanent filling especially for all classes of cavities in the anterior teeth, in fact, in my opinion it still remains the only permanent filling for such teeth.

I look back with considerable pride to the great gold operators in the early days, who made it possible and gave to the profession the results of their labours, which they had to work under great difficulties, and often pay my silent and humble homage to those eminent operators who helped to make the path of those who follow in their footsteps a real benefit to our patients and the profession.

Such eminent operators, who devoted much labour and skill will ever be revered. Dr. Varney who showed the highest conception in elegance of contour and prophylactic value, Dr. Marshall Webb, whose gold restorations have never been equalled, and Drs. Atkinson and Abbott and others.

Operators like Westcott, Dwindle, Maynard and others, devoted their skill to non-cohesive gold filling.

When I entered in the study of dentistry Dr. Louis Jack of Philadelphia was at the height of his professional career, and I well remember looking to him for most of the information on gold fillings. To me he was the ideal operator. He made a very valuable contribution to the "American System of Dentistry", edited by my esteemed friend, the late Dr. Wilbur F. Litch. The difference in the working quality of non-cohesive and cohesive gold requires two distinct methods of operating, as the manipulation and condensation, and kind of instruments used.

I must not forget to mention our indebtedness not only to a number of dentists as well as instrument designers and makers who helped to make it possible to achieve such great success in this method of filling teeth.

Such operators as Varney, Atkinson, Redman, Abbott, Darby-Perry, Chappell, Jack, Head, Knowles, Davenport, Smith, Ladmore, Bennett, Williams, who designed excellent gold plugging instruments.

Royes, Briggs and others designed pluggers used for the manipulation of Crystal Gold, etc.

From these sets of plugger points an operator may be able to choose the most desirable instruments which will meet his need, in operating any fillings of gold.

I have in my possession a set of Varney's pluggers presented to me by a dentist, who used them for a number of years, when he practised dentistry at Kennet Square a short distance out of Philadelphia. These instruments were one of the first sets designed by Dr. Varney.

The dentist who has a limited number of plugger points which may be bent to accomplish the desired results, if a selection could be had from a larger number, for by heating and removing the temper the points may be bent to any curvature, filed or ground to a more suitable shape, then re-tempered. These points may be bent back to the original form if desired.

I have designed and modified in this way, a set of twenty-four, which I have been using for a number of years with good success. If the serrations become too much worn I re-cut them with very fine files suitable for this work.

How proud most of the students are when they successfully pass their examination on the practical insertion of the required number of gold fillings. I must confess I was one of those students, who after graduating, thought I had fully mastered the technique and become fully competent to do these operations. However, I found out quite differently for I consider it took me fully five years in practice to accomplish what I considered a good gold filling.

During my early manipulation of cohesive gold I found out some valuable ideas—especially in the working quality and the proper instrumentation. The late Dr. Teskey had been using the same plugger points for a great many years and consequently these points lost by wear much of the serrations, in fact some had become almost obliterated. We came to the conclusion that deeply serrated pluggers were not as efficient as less serrated ones; and that by a modified serrated surface the gold did not "Ball" under pressure; thus the gold became more uniformly condensed, without leaving the surface of the filling in a pitted condition causing the process of condensation difficulty, etc.

Care should be taken in the process of malleting, especially where

considerable force and extensive restorations are made, this of course will depend upon the security of the tooth in the alveolar encasement.

Fortunately the rubber dam gives great support, when secured by ligatures acts as an excellent pad to resist concussion. Especially in very heavy malleting the tooth should be supported by the finger. Many teeth are permanently injured by an unjudicious use of the mallet.

A great many dentists resort entirely to the automatic mallet to condense the gold throughout the operation. I have used since commencing practice the various methods from hand pressure to the electric automatic mallet. Recent years I have almost abandoned the automatic mallet to hand pressure and by the simplest form of malleting, I have had my set of pluggers, made with very short handles, this allows the pressure to be exerted as closely to the area of operation as possible, heretofore instruments for this purpose were made too long, and naturally required an attendant to assist with the mallet hammer, this obviates any assistance to the operator as he has full control of his own situation, and will be able to direct properly the blow required.

As a substitute for the mallet hammer, I use one of the plungers used in making shell crowns, about two inches and three-quarters long by one-fourth inch in diameter—weighing only a few ounces. This kind of hammer allows easy manipulation as it will slide easily between the thumb and finger and the fingers will overcome percussion. Pluggers for the automatic mallet should be as short as possible in order to be nearer the field of operation. Many designs are made too long. Some years ago I made this suggestion to an instrument designer. The result was shorter cone socket plugger points were obtainable.

There are a number of automatic mallets devised, but I prefer the Snow and Lewis, a make that is well and favorably known. I also used a very handy and convenient device known as the "Shannon", constructed differently from any other, the stroke is applied at right angles, with very short plugging shanks. This instrument is very useful for condensing lingual surfaces of anterior teeth and morsal of bicuspid and molars.

The student will do well and profit thereby if he follows the teaching on the technique of gold fillings, so clearly explained, by Dr. C. N. Johnson, Chicago, in his text book "Principles and Practice of Filling Teeth."

In conclusion I wish to state that there is no part of operative Dentistry gives me more real satisfaction and pleasure than to insert cohesive gold fillings, notwithstanding that I was one of the first operators to develop the gold inlay—an excellent means of preserving tooth structure.



Focal Infection

A. E. WEBSTER, D.D.S., M.D.

Read before the Eastern Ontario Dental Association, June 24th, 1926.

Dental literature teems with papers, discussions and references to the subject of my address, but strangely enough medical literature is relatively lacking in references to the subject. Kolmer is the last edition of "Infection, Immunity and Biologic Therapy" of over a thousand pages allots four pages to focal infection. One would have expected a full discussion along the lines of the work done by Billings, Gilmer, Rosenow, Price and others. It would seem that medicine has been used to the idea of focal infection and thus does not need to stress it, while in contrast dentistry has found a new hook on which to hang its hat.

The idea of focal infection is not new to either medicine or dentistry if one is to believe the records of literature. There are evidences of this knowledge centuries old. In the nineteenth century, Benjamin Rush records the successful treatment of a general disease by the removal of a tooth and Brown, a dentist of Thorold, Ontario, caused the cure of a chronic iritis in 1864 by the treatment of a cuspid tooth. These are evidences of the truth of that ancient adage that no part of the human body could be detrimentally affected without its having an influence on all other parts of the body. Dentistry has for decades, forgotten this truth only to relearn it when Hunter threw down the challenge to American dentistry. Hunter accused American dentists of causing disease and death rather than curing it and prolonging life.

It is this broader aspect of focal infection which has been in the minds of well educated physicians and surgeons for centuries that is gaining the attention of dentistry during the past few years. One would think from reading dental literature and following the actions of some physicians that the only cause of nearly all diseases was focal infection, or still more narrowly speaking, teeth with non-vital pulps.

Not a few writers seem to get all muddled up when discussing focal infection and oral sepsis. There is no reason for using these terms interchangeably and there are good reasons for separating them. Oral sepsis is what the dentist calls a dirty mouth. It has accumulations of food, calculus, decayed teeth, sordes, bacteria and dead epithelial tissue. On the other hand focal infection is a circumscribed area of bacterial infection from which organisms or their poisons pass into the lymph or blood stream. *Billings*: Oral sepsis usually has its effects in and adjacent to the mouth, often of an acute character as well as a chronic effect on the alimentary tract. The disease is spread by contiguity or by natural channels. Hunter was the first to point out that the anaemias are always associated with a dirty mouth and Headley has more recently called attention to the association of cancer of the intestinal tract with oral sepsis. These conditions do not seem to be intimately associated with infections around the apices of teeth as is found in such general diseases as rheumatism, arthritis, endocarditis, and etc.

Surgeons and pathologists of the recent past recognized focal infection as above defined, but more recently there is a tendency to broaden the meaning of the term to include poisons circulating in the blood of bacterial origin. In fact, the authorities consulted do not make it clear that the systemic effects are from bacteria floating in the lymph or blood or that it is the poison produced in the focus that does the damage.

Some of the most careful writers on the subject of focal infection such as Billings, Gurd, and Kolmer group infections, first those which gain ingress to the body and at once become active and produce *acute* symptoms of disease as in the acute infectious diseases, and second, those which are now under discussion which produce a localized and confined infection without symptoms; from these primary or localized infections micro organisms may gain access to the lymph or blood stream and at other points cause another focus of infection. This latter is called focal infection.

Billings says these primary foci of infection may occur anywhere in the body, the most common location being teeth, jaws, tonsils, mastoids, and other accessory sinuses, but it must not be forgotten that infections of primary origin often occur in fingers, toes, appendix, gall bladder, genitourinary system, air passages and skin. Too often dentists and especially physicians think of the primary infection as coming from the teeth only. Recent observations by Duke, Hatton, Ricket, McDonagh and some English authorities would indicate that apical ends of teeth and pulps of vital undecayed teeth are often secondary seats of infection. The bacteria having come from some other part of the body.

It is well to look for oral sepsis in children, adolescents and old people if many teeth remain and focal infection from teeth in middle life and tonsils of the young. Rosenow has said that tonsillar infection is nearly always secondary to oral sepsis.

Clinicians have often observed that after finding a focus of infection and completely eradicating it the patient has not been materially improved. In such cases it has been advised to re-open the wound and do a more thorough operation. The explanation of such failures might well be that there might be one or more secondary infections or foci still distributing bacteria or poisons or that the tissues of essential organs are so reduced in function that months may be required for recovery, or no recovery can take place. *Too much hope must not be held out for the cure of a chronic disease by the removal of a long standing primary focus of infection.* Thus primary infections should be treated before secondary infections occur and before essential organic tissue is destroyed.

Dentists have often observed an acute peridontitis following the insertion of a gold foil filling in a tooth with a non-vital pulp in which the canal had not been opened. They have seen a similar occurrence after setting a bridge, an inlay or a crown. And also very marked inflammatory processes following the removal of third molars, and in some cases death from removing several infected teeth. Physicians and surgeons examine accident patients very carefully for focal infections. What is the explanation. There may be many virulent organisms present at the point of traumatism or in a focus of infection which only need the waste products of dead tissue as occurs in trauma to start an abundant growth. The lesson is to avoid traumatisms especially so in the presence of focal infections or oral sepsis. This is especially true in root canal treatments.

Physicians have observed how frequently their patients develop acute local peridontitis or acute pulpitis when the symptoms of an acute in-

fectious disease have subsided. Then again older patients often begin an illness with an acute alveolar abscess, then a tonsillitis or mastoid and finally a pneumonia. Usually there are secondary foci of infection which are due to oral sepsis.

Hatton thinks the condition of the oral cavity is an index of the physical condition of the patient and that no essential organ is alone damaged by disease.

It must be plain to anyone who knows that chronic infections about the root ends of teeth are the cause of such general and fatal diseases as endocarditis, cancer, rheumatism and anaemia that he must, for the good of his patients, make a careful study of the whole problem.

To come close in to the subject and apply what has been outlined there can be little of a very positive and definite nature stated. What, in the opinion and experience of one diagnostician would warrant the removal of one or many teeth might lead another to retain them. So while ever men live there will be differences of opinion in matters which one or both know little about. Focal infection is such a subject. Among those who have made a study of the subject, there is no difference of opinion on the broad principles of getting rid of points of infection which are known to be detrimental to health, but there are honest differences of opinion as to the *presence of infection in rarefied areas* as shown by X-ray pictures at root ends of teeth and as to the methods of getting rid of such infections.

In general, what determines the removal or retention of any tooth in the mouth is the health of the patient and the condition of the peridental membrane.

We have laid down the positive rule which admits of very few exceptions that all patients suffering from syphilis, tuberculosis, anaemia, rheumatism, endocarditis, diabetes and acute eye affections must not have left in their mouths any point of infection even if it involves the loss of every tooth. On the other hand, robust health patients of good family history, may have many or all such infected teeth with a good peridental membrane treated in the same manner you all know so well how to treat.

If we could but remember that nature tends towards recovery in every interference with her processes. There would be less bewilderment on this subject and many teeth would be saved. We have all observed the general symptoms of the acute alveolar abscess subside and the chronic abscess follow with no symptoms, then comes the granuloma, less infectious than the cyst which is sterile. If such things happen by nature unaided, it indicates that with our assistance such chronic infections will recover if we leave tissue enough to maintain a useful tooth.

All the factors bearing upon immunity and disease must be considered in the determination of any line of action. Methods of getting rid of oral sepsis, without removal of teeth.

From what has been said and chiefly from what can be inferred, dentistry is plainly at the parting of the ways. It must take full responsibility for knowing the same fundamental subjects as the physician if he intends to consult with him in determining the treatment and prevention of such diseases as may be caused by focal infection or he must take the other alternative of being directed what to do by some one who knows these things. The dental educational institutions of this continent have taken full responsibility and added sufficient time to not only teach all the necessary fundamentals but also give instruction in treatment. Under these circumstances, what is the duty of the practitioner who has not had these

courses of study? Go right ahead and practice and weigh his experience against the fundamentals of the youngster. In the meantime, read current medical and dental literature. Read such books on histology, pathology, medicine and dentistry as can be obtained in the dental library of the University and buy one good reference work on general medicine, surgery, pathology and dentistry.

Drugs in Dentistry

G. H. GARDNER

The practice of medicine and its sister profession dentistry is as old as the human race. Ever since man inhabited the earth—his fellow-man has attempted by one manner or another to overcome the pains with which he was afflicted. The first was by means of surgery and later by means of herbs and still later by the introduction of animal drugs. This service became specialized and we find men travelling about the country and by extraction and other means attempting to alleviate dental pains. With the introduction of religion into daily life of the people, illnesses and pains, etc., were considered as punishments from the gods and so we find the priests came to have charge of the spiritual as well as the bodily welfare of the individual. This is the era of sacerdotal medicine, and among the less cultured races the claptrap of the conjurer and his mysterious concoctions were used to drive out evil spirits. In the aborigines we still find the medicine man practicing along these lines almost until this day. With the evolution of the human race we find them picking out certain herbs and drugs which combat certain symptoms and also to bring about certain symptoms which apparently had a beneficial influence on the disease. Irritants and counter irritants were among the first remedies used. These were followed by such remedies as lessen irritation and mitigate pain. A systematic search for new remedies followed much later as a result of a close study of the action of drugs already known and the symptoms they combat.

The early history of dental medicine is so closely interwoven with medical therapeutics that it is impossible to distinguish it from the mother science. The records of Babylonians, Hebrews, Romans, Assyrians, Greeks, are the first to contain any authentic historical data of the existence of a dental science. The recent excavations of Babylonian ruins have brought to light facts concerning the practice of dentistry as far back as 2250 B.C. Dental medicine as found in the papyri of the Romans, contained sage seed, honey and some unknown plants played an important part in the treatment of dental disorders at that time. The Hindus as a race were very proud of their teeth and their care came to be a religious rite. They chewed up a very bitter wood and then used it as a brush to clean their teeth and we find this race with a very nearly perfect dentition. Under Hippocrates dental remedies used were used as hyssop, licorice, dog's milk, goat's butter.

Dental medicine at the time of John Gaddesden, one time professor of Merton College (Oxford) is thoroughly tainted with medical avarice, superstition and ignorance. Their preparations of that time contained often as high as eighty or more drugs. A decoction of that time in the treatment of neuralgia was made up of the gall of a cow, wormwood, alum, pepper, nutgalls cloves, pitch, mustard seed, heart of a magpie, fat of mice, crow dung, lice and plantain. Other writers in Great Britain at that time exhibit the same stigmata as Gaddesden and in the writings printed in London only a few decades ago drugs treated in dental therapy are directly traceable to Greco-Roman surgeons at the time of their occupancy of Britain. At this time dentistry was not compatible with the honor of a free born Roman and it was left to the slaves to study dental medicine and medical therapy and prescribe medicines and carry on dental practice. In England up until the eighteenth century the barber prescribed for toothache as well as did the surgery of those days.

Very little progress had been made in dentistry prior to 1840 because there were no journals publishing the findings of the men engaged in that work and the dentists themselves were jealously guarding any special knowledge or process they might happen to possess. The few journals that came to be printed about that time were greatly hindered by the very meagre facilities of those days. The birth of dentistry as a profession came in 1839 with the opening of Baltimore College of Dental Surgery.

Empirical therapeutics had by this time reached away far ahead of pathological knowledge because no specific books had been published on dental remedies and the little that had been learned of drug action was scattered through the few dental works that had already been published or else closely guarded by its possessor. The drugs in use at that time were the nutgalls, oak bark, myrrh and alum—the common astringents. Of the caustics silver nitrate, the mineral acids, especially nitric acid, arsenic tri-oxide had already attained an important place in dentistry in pulp extirpation which it still enjoys to considerable extent despite the introduction of many substitutes. Creosote and phenol discovered in 1834 were used as caustics and unwittingly as antiseptics.

The antiseptic era was inaugurated by Joseph Lister in 1867 when he published his paper on the antiseptic principle and practice of surgery. The essential oils have been employed for centuries as obtunding agents in the treatment of pulpitis and as flavoring to mouth preparations, and were now introduced as antiseptics. Aromatic and analgesic fomentations prepared from mixtures of chamomile, henbane, poppy heads, hops, ground linseed, roasted figs, bruised raisins, occupied a prominent place as antiphlogistics in the relief of pain about the teeth and their adnexa. Of the true analgesic drugs—opium and aconite are probably the most important representatives. Among the aromatic tinctures and lotions which are used as soothing and healing mouth washes are alcoholic extracts of balsam and resin as benzoin and frankincense and decoctions and infusions of herbs, barks and roots.

The aim of dentistry like medicine is to cure disease, relieve suffering, and to maintain health. To aid us we have at our command drugs, the national administration of which depends on a clear conception of the causes which produce the disease—general pathology. In the combatting of disease we utilize substances from the vegetable, animal and mineral kingdom. In teaching as well as clinical pharmacology a number of questions arise which indicate its close relationship to physiology and pathol-

ogy. Through the action of drugs on normal tissues we are led to understand their effects on the disturbed function of these tissues. In the study of anti-pyretics the influence of these drugs on the normal temperatures as well as on increased temperatures in fevers, etc., are necessary to get a complete understanding of its therapeutic application.

Modern medicine has benefitted to an immeasurable degree by a close association with modern pharmaceutical chemistry and while old, well-tried remedies such as opium, digitalis, mercury, potassium iodide, still have a place in therapeutics, the newer substitutes are assuming a rightfully important position but it is a false assumption that only the new is of value. The discovery of the chief alkaloid of opium—morphine in 1805 led to the beginning of a new era in pharmaceutic chemistry. It was rapidly followed by the isolation of atropin from belladonna, cocaine from coca and strychnine from *Nux Vomica* until to-day practically all medicinal plants have had their active principle isolated. The use of these alkaloids permit an accurate dosage and to increase the rapidity of action of the drug by means of its introduction into the system hypodermically. The analyses of these alkaloids has led to the synthetic preparation of alkaloids in some instances at least superior to the natural alkaloids in the treatment of disease. This is especially true in the many synthetic cocaine substitutes which are now used chiefly as local anaesthetics and also in the case of many antipyretics, antiseptics, diuretics, diaphoretics and a host of similar synthetic products.

The first systematic classification according to their pharmacological action was introduced about 1856 by Buckhum and since that time—about the early eighties a complete revolution of drug medication has taken place. This revolution was made possible by the complete elimination of empiricism and using results obtained by experimenting on healthy and artificially diseased tissue and animals and to some extent on man. The largest group of drugs used by the dental practitioner in his clinical practice are drugs which exercise no definite action on specific organs of the body. The disturbances treated by the dental practitioner are largely of an infectious origin and consequently antiseptics form a very important group of dental remedies. Astringents and caustics are so closely related to the antiseptics that it is often just a question of the relative concentrations of the two solutions as to which class they fall under. In connection with the protectives we class those agents which remove the cause of the disturbance as antacid, irritant and counter irritant. To restore the oral cavity and incidentally to act purely for cosmetic purposes, we use washes, powders, pastes, soaps and bleaching agents. To be able to relieve and mitigate pain is one of the greatest triumphs of modern dental pharmacology, hence we find local anaesthetics, general anaesthetics also hypnotics, anodynes and sedatives deserve considerable mention among the remedies of the dental practitioner. The broad-minded dental practitioner should possess a fair knowledge of those drugs which influence the respective pathological disturbances—stomachics, emetics, cathartics, etc., changes in circulation which according to conditions require depressants or stimulants and those which influence respiratory activity necessitate for their treatment drugs which form an integral part of the general pharmacologic knowledge of the dentist. The influence of the latter is especially of significance in the administration of anaesthetics and other powerful poisons.

Sterilization is a very important subject in dentistry and besides moist heat and dry heat and the open flame we have drug agents to assist in

sterilization and in the protection of substances from further contamination. Many of the powerful disinfectants which can be used on hands, etc., and site of operation are too powerful to be used on metal instruments. In this class are formaldehyde, mercuric chloride, etc. To sterilize a local anaesthetic it is well if a stock sol. is used to add .5% phenol or .4% cresol sol. to hinder future contamination. Gutta percha points may be sterilized in 70% alcohol or 10% sol. of formaldehyde. Alcohol stands first in the organic bodies as a disinfectant in dental practice—Buckley solutions containing 40-70% being most effective. Iodine is also a valuable disinfectant being used to sterilize mucous membrane previous to making submucous injections of local anaesthetics. Drug sterilization is not efficient enough for steel instruments which come in contact with the operation, and heat sterilization is used there. In sterilization of dentine, silver nitrate precipitated by oil of cloves or formaldehyde is most efficient and next most efficient is probably phenol.

Probably in no branch of dentistry will a patient appreciate the operator's efforts to obtund pain to the extent they do in preparation of a cavity in hypersensitive dentine. There are physical agents—heat, cold, light and electricity but they do not come under drugs. Eschurotics and caustic drugs which cauterize the dentinal fibrillae will obtund sensitive dentine. In this group we find phenol, zinc chloride, silver nitrate and trichloroacetic acid. Phenol has local analgesic properties as well as a cauterant and comes also under that class. Zinc chloride is next in efficiency, then trichloroacetic and next silver nitrate crystals. The next group in treatment of hypersensitive dentine are anodynes and local anaesthetics—cocaine, monocaine, menthol, oil of cloves, phenol, ether, chloroform. In some cases a high pressure syringe is used to force an anaesthetic into the pulp. Buckley considers that we are seldom justified in completely anaesthetizing for the purpose of preparing a cavity on account of the protoplasmic poisoning of the pulp often following use of the local anaesthetics. Novocaine has a much slower action than cocaine but has no advantages over it—Buckley. Oil of cloves, eugenol and phenol because of their anodyne properties when hermetically sealed in a cavity for some time so check the continued irritation of the dentinel fibrillae as to aid nature in restoring these to normal structure and function when they should not be responsive. Ethyl chloride ether and chloroform, because of their great volatility produce a condition of anaesthesia thereby obtunding the dentine, because of the influence of decreasing the heat of the part to be cut. Desensitizing pastes are also used in this connection and Robinson's Remedy is probably best known and composed of equal parts phenol and potassium hydroxide crystals and act by extracting the water from dentinal tubules. Nitrous oxide may be used administered as a general anaesthetic or chloroform carried to the analgesic stage. Dr. G. V. Black says that in his clinical experience the attempts to relieve suffering in the necessary cutting of dentine in cavity preparation results have been so poor and uncertain that, compared to skillful use of well selected cutting instruments, well tempered and always sharp, they have not been a success. It is, he says, the ever present duty of the operator to relieve all unnecessary pain and to continue in the search for more efficient desensitizing remedies.

In pulp extirpation drugs are used to a considerable extent in preparation for removal. Pressure anaesthesia is one method, the pressure is applied either by the use of a high pressure syringe forcing anaesthetic such as novocaine or cocaine through dentinal tubules or by pressure

through thin layer of a dentine or a small exposure by means of a small piece of gutta percha and a blunt instrument. In this method a rubber dam should be used and the cavity thoroughly sterilized to prevent carrying an infection to the peridental membrane. To devitalize the pulp by means of arsenic trioxide a very minute particle of the drug is carefully sealed in the cavity with oil of cloves or cocaine to soothe the pulp while the arsenic works on it from twenty-four to forty-eight hours and as the action of arsenic is unrestricted and very powerful it should not be left longer as it may travel through apex and destroy the peridental membrane and surrounding structures. It cannot be employed in deciduous teeth because the apices are so large that it does not confine the drug as it should and these teeth are best treated with phenol and filled with phenol paste—Buckley. Arsenic can be applied in the white powder form, as arsenic fibre or as Bird-Moyerdisk, probably the discs are the more satisfactory form. In case the arsenic escapes and comes in contact with the gum a sloughing of the tissue takes place. To treat this, scrape away all the sloughing tissue until it bleeds well and wash with solution of hydrogen peroxide about 3% strength. Euroform paste on cotton gauze can then be applied to stimulate cell activity and an antiseptic mouth wash prescribed to keep the mouth as clean as possible. In case the bone is affected surgical treatment is indicated.

In opening into pulp canals or chamber the rubber dam should always be in position and immediate field of operation sterilized with alcohol or some other means of sterilization as well as all instruments used in the treatment. If the cavity has an infected pulp and in opening a strong odour comes out, use formo cresol or thymo cresol on pledget of cotton and seal up. Keep up sealing in disinfectants—creosote, oil of cloves, etc., until a smear in broth culture shows no organism present and then the root canal may be filled but it is well if the pulp chamber has contained a putrescent pulp to stain with Howe's sol. of silver nitrate precipitated with oil of cloves or formaldehyde but not allowing it to precipitate on the tooth crown as it will discolor and then the root canal may be filled with copper amalgam, chlora percha, gutta percha or whatever method may be indicated. Callahan's Method for treating root canals that have contained putrescent pulp consisted of drying the canal and passing down it Callahan's sol. on a paper cone. Callahan's sol. is made up of resin dissolved in chloroform and as chloroform evaporates the resin seals up the tubules of the dentine and keeps back any infective material which may be in them.

All cavities after they have been prepared should be dried out and sterilized before the application of the filling materials, and chemic or drugs are the means used to do this. If the cavity has some discolored and slightly infected dentine in the bottom which reasons of the close proximity of the pulp it is not well to remove though it may be dried with alcohol and sterilized with 25% silver nitrate sol. applied very carefully as it is very irritating to the dental pulp. Phenol or silver nitrate may also be used in deciduous teeth to sterilize sensitive dentine, phenol being indicated when the layer of dentine is so thin that silver nitrate would be too irritating to be indicated. Where the preparation is such that all discolored tooth structure may be removed 67% alcohol is sufficiently strong sterilizing agent to use and after drying with air insert filling. In deciduous teeth in the posteriors where caries are very prevalent the wet decay may be removed and by staining with Howe's silver nitrate sol. the progress of the decay may be stopped. This is also indicated in roots of permanent teeth where

cementum has become exposed by falling away of the gingivae due to periclasia and also eroded surfaces of dentine which have become sensitive to the fluids of the mouth.

Many teeth become discolored due to the putrefaction of organic matter in the case of pulp decomposition and in mineral salts being formed from a leaky filling. It is often a great advantage in the case of anterior teeth to bring them back more nearly to their normal color. This is done by oxidizing the compound to a colorless compound in the case of organic compound. This is brought about by means of sodium dioxide, 25% pyrozone, 30% ammonium chloride and hydrogen peroxide, barium dioxide, alphazon acetozon. This mixture is placed in the crown of the tooth and with a rubber dam in place and surrounding teeth protected from the action of the drug by means of paraffin wax and the aseptic root canals two-thirds filled. Chlorinated lime is usually used in sol. with weak acid as acetic to liberate chlorine. Oxygen is liberated by the action of free chlorine on moisture liberating O₂ and forming hydrochloric acid and setting free nascent O₂. The reduction is based on the liberation of O₂ from a colour compound by the action of a powerful reducing agent—sulphurous acid usually, and bleaches by seizing upon and combining with the O element of the color molecule thus destroying its identity. This is carried on several times until a shade considerably lighter than the surrounding teeth is reached as the tooth always darkens somewhat after the treatment. Metallic stains require specific treatment—gold, iron, copper and nickel are best reduced by the chlorine method—Primz.



Dental Education

In conclusion, I would like to point out the absolute necessity for more aggressive health education. Tradition and custom prevent professional men from measuring up to their full responsibility in this regard. Many conscientious dentists feel that they are doing their full duty when they give advice and treatment to those who seek it, and that professional ethics will not permit them to go farther. What is Ethics? Is it not in the final analysis, the exemplification of the Golden Rule, doing unto others as you would that they should do unto you? Would these men be satisfied if their neighbor had some information which would protect them from great injury and loss and he withheld it simply because he was not absolutely sure that his advice would be welcomed? Dentists have knowledge which the people need, consequently they are in duty bound to impart that knowledge, and the highest ethics will not permit them to take any other course. But how should this useful information be disseminated? The most efficient agent is the public press.

There has unfortunately in recent years been a misunderstanding between some professions and some newspapers due to a confusion of thought between health education and advertising. Newspaper men have made the statement that the doctors and dentists in their public health education were seeking cheap advertising, and the professional men in turn charged the newspapers with encouraging advertising which was not in accordance with ethical practice. This situation is regrettable and should be corrected. There is all the difference in the world between health education and advertising. One is altruistic and benevolent, the other is usually self-seeking and mercenary. The one has as its activating motive the betterment of humanity, the other the securing of personal gain. The healing profession and the newspaper both owe it to the general public to join hands, and by mutual co-operation bring to the people that knowledge which will protect them from preventable diseases and perchance premature death. With this object in view the dental department has prepared several hundred short readable newspaper articles which will be sent to any paper that will provide the necessary space. Motion pictures, slides, posters and pamphlets are also available, and members of the profession in all parts of the province are willing to give public addresses pointing out the means whereby an individual may protect himself from the ravages of dental disease.

My final word is one of gratitude. I am indeed delighted to have this opportunity to speak to the Dental Nurses of Ontario. We are all engaged in a great altruistic endeavor to protect the citizens of this province from disease and injury. Health is most important both from the standpoint of the individual and the state, and the task of preserving health and preventing disease is so gigantic that it challenges our best efforts and calls for many personal sacrifices, but the results will more than justify the time and energy expended. Our activities differ to some extent, but we are all engaged in a work which will never become monotonous, for new avenues of helpful service will ever open up before us, and we can look back upon a past resplendent with glory of useful work well done.



W. W. WICKWARE, D.D.S.
President of the Eastern Ontario Dental Society and the
Ontario Educational Association.

SOCIETIES

Happenings in Dental Education in The Faculty of Dentistry, University, Toronto

Wallace Seccomb, D.D.S.

So much has happened in the Faculty of Dentistry during the past year owing to our new relation with the University that it seems hardly possible that such a comparatively brief period has elapsed since the transfer of the School of Dentistry.

Teaching of the following subjects has been transferred to the regular University departments; Biology and Comparative Dental Anatomy, Organic Chemistry, Inorganic Chemistry, Physiology, Pharmacy and Pharmacology.

Dr. Andrew Hunter of the University staff continues as head of the Department of Biochemistry and Dr. Watt remains in active charge of the teaching of Anatomy.

In the Department of Surgery, Dr. Clarence Starr is the Professor, while Dr. Ryerson gives the lectures and clinics in Surgery, and Dr. Risdon the course in Oral Surgery.

As the teaching of Chemistry was taken over by the University Department, Dr. Cowling was made Professor of Applied Chemistry, Physics and Metallurgy, giving the dental applications following the regular courses and developing an excellent experimental course in Applied Science.

Mr. Rous, a graduate of the Faculty of Applied Science and Engineering, is assisting Dr. Cowling and acting as Secretary of the Faculty.

Dr. Willmott devotes one-half his time to teaching in the Department of Prosthesis, and one-half to his duties as Secretary of the Board of Directors of the Royal College of Dental Surgeons.

The principle has been adopted that in every subject, whether the work is given in the Dental Building or elsewhere, the Faculty of Dentistry has the right to determine what the course of study shall be. This will ensure the definite application of the sciences to Dentistry, and while giving a broader foundation, will develop better dental practitioners having a keen interest in further study and research.

A short course in Public Speaking given by Prof. W. H. Greaves of Victoria College was instituted this session for fifth year students, and seemed to be much appreciated, especially by those who undertook the work in smaller groups.

The curriculum of the First Year conforms to that of First Year Medicine. French has been discontinued and lectures in Science and Civilization added. The object has been to permit the transfer of students from Medicine to Dentistry and from Dentistry to Medicine at the end of the First Year, provided they hold the necessary preliminary requirements.

Notice has been given in addition to Pass Matriculation, Honour Matriculation in certain prescribed subjects will be required for entrance to Dentistry in 1927.



Eight dental practitioners served on the Faculty without remuneration, seven giving special clinics to the Fifth Year students and Dr. Ante his regular course of lectures in Crown and Bridge Prosthesis to the various years. The others serving were as follows: Drs. O. S. Clappison, J. N. Stewart, A. S. Thomson, C. E. Pearson of Hamilton and Dr. W. B. Amy, C. E. Sutton and R. M. Box of Toronto.

The Faculty of Dentistry suffered a very severe loss in the passing of our much esteemed confrere, Dr. R. G. McLaughlin, who rendered such able service as Professor of Ethics and Dental Jurisprudence for many years.

Dr. Conboy has been appointed to combine the teaching of Applied Psychology, Ethics, Economics and Dental Jurisprudence in a Chair to be known as that of Dental Praxis.

A plan of co-operation has been developed with the Toronto Department of Health to conduct in the Dental Building a school children's clinic. This clinic will not only afford an opportunity for public service but will also prove of great value in supplying undergraduates with clinical facilities in children's dentistry.

The Dental Nurses' class this year has been in charge of a Supervisor, and has been made more practical, particularly in the direction of dental laboratory service. The dental nurses-in-training are registered as "occasional" students in the University, the diploma being awarded by the Board of the R. C. D. S. upon recommendation of the Faculty Council.

The annual Dental Practitioners course this year will be held from September 13th to 18th, (the week following the Canadian National Exhibition), and its scope will be somewhat similar to that of other years. The fee for the course for all registrants will be \$25, and members of the profession who desire one week of intensive study of the practical problems of practice, are urged to attend.

During the past session a Conference of Dental Teachers was held from the 1st to 6th March, when eight colleges were represented by twelve



teachers in all. The conference was an entire success and it was decided to hold such a gathering annually about the end of the first semester. The 1927 Conference will extend over a two weeks' period.

Extra-Mural Lectures were given in numerous districts throughout the province, the local societies paying the travelling expenses of the teacher, and the Faculty and Board arranging the honoraria. It is hoped that the number of extra-mural lectures during the ensuing year will be greatly increased and will include the outlying districts of the province as well as the counties that have already taken advantage of this service.

Our Library is composed of the Dental Departmental Library of the University and the Harry R. Abbott Memorial Library, and is in charge of the Faculty Librarian. During the session 80 graduates in Dentistry have borrowed books from the Library, in many cases obtaining them by mail.

Members of the profession are urged to make contributions of any interesting specimens of a pathological or other nature, to the museum, and also contributions of dental magazines to the library.

There has been during the year a marked development in the Faculty Consultation Service. Members of the profession are invited to forward models, radiographs, clinical histories, designs for partial dentures, or other information concerning difficult cases in practice upon which they desire advice. Requests are referred to the department or departments concerned and advice given after conference with the clinical department. All such enquiries addressed to the Dean's office will receive careful attention.

Members of the profession are urged to forward suggestions concerning problems met with in practice and meriting special study, experimentation or research. It is hoped that one of the results of the transfer of the School of Dentistry to the University will be stimulation in Dental research. The facilities of the University are available to this faculty and it is hoped that they may be utilized to the greatest possible degree.

More Money....How?

Professor of Economics Addresses Saskatchewan Dental Society:

"Your position as specialists makes you dependent on society for the things which you require to maintain life," said Dr. Carrothers. "So long as you are rendering a service to society which society values you can claim service in return. You create your claim on the service of the other producing groups through the medium of the money you obtain in payment for your services.

"Your economic problem then resolves itself into the question: How much of the services of the other groups in society can you secure in return for your services? As it is through money these services are obtained the problem may be said to have two phases: How can you secure money and how can you secure more money, or what is the basis of your income and how can you supplement that income?

MONEY A GATEWAY

"In saying this I am not losing sight of the fact that your profession is much bigger than making money. I do not lose sight of the fact that a man may succeed in making money and yet miss the real object of life.

"But in modern society money is at least the gateway to life. Without it we are deprived of the means of life, and without an ample measure of it we are deprived of the fullest life. When I say that your economic problem is how to obtain money and more money I take it that we look upon money not as an end to itself, but as a means to an end."

The charges which are made by the dentists, the doctor stated, should be somewhat in proportion to the costs of producing a dentist. "The second factor in determining the compensation which you can claim for your services is the value which society places upon your services. From certain points of view it is even more important than the first. The value society places upon your services depends largely on the need of those services in relation to other needs and to income. In countries where poverty is rife there may be the need for the services of the dentist, but there is not the ability to pay," continued Dr. Carrothers.

"USE IT WISELY"

"When once you have got hold of the money, one way to get more," said the speaker, "is to use it wisely. I would not presume to give advice to this audience on thrift, or the proper use of your income. I simply point out that there is much more importance attaching to the old-fashioned ideas on thrift than most of us are prepared to admit," he added.

"The first thing a dentist should see to is that his life is adequately insured. Life insurance today is a science. It is possible to secure a policy to suit practically any requirement. I am of the opinion that life insurance should form the foundation of the financial structure which you build up for the protection of yourselves and dependents.

"I would say that the best investments for the dentist are those which are sufficiently safe to cause him little thought. Perhaps a wise thing would be to get in touch with a reliable broker, and if you are not satisfied with interest and dividends, and wish to do a little trading play the long swings of the security market," the speaker advised.

"For those of you who do not wish to trade, who want a safe investment in securities which you can place in your vault and count on a definite yearly return there are a few things you must keep in mind. There are three things to look for in a good investment: Security of principal and certainty and adequateness of income.

"I have endeavored to deal with what I have said to be the two phases of your economic problem," the speaker said, "how to make money and how to make more money. I do not guarantee that by following the advice given you will become millionaires. I do claim that by doing so you will avoid considerable loss and worry and probably make two dollars exist where one existed before," the doctor concluded.

Formation of a Canadian Dental Golf Association

Formation of a Canadian Dental Golf Association was effected last night at the concluding session of the annual convention of the Canadian Dental Association which took the form of a dinner held at the Halifax Golf and Country Club.

Following are the officers of the new association: President—Dr. J. M. McGee, Saint John, N. B., Vice-President—Dr. W. M. McGuire, Ontario; Secretary-Treasurer—Dr. Warren C. Oxner, Halifax.

The dinner was presided over by Fred Pearson, vice chairman of the Board of Governors of Dalhousie University, assisted by Frank Chipman, president of the Ashburn Golf Club.

Following the formation of the association the prizes won by the dentists at a Golf tournament held over the course of the Ashburn Club were presented by Mr. Pearson.

The Championship cup, presented to the Canadian Dental Golf Association by the Nova Scotia Dental Association, for the best score for 18 holes was won by Dr. Rice, of Halifax, with a gross score of 84. This cup is a perpetual trophy. The runner-up was Dr. Oxner whose score was 85. Dr. Oxner was presented with a pair of military brushes donated by the L. D. Chalk Company of Canada.

The Medal Play Cup, donated by Dr. G. K. Thompson, of Halifax, was won by Dr. Oxner with a score of 69. This cup will be held permanently by the player winning it three times.

The runner-up was Dr. W. H. H. Beckwith, of Halifax, who was awarded a dozen golf balls presented by the Dental Company of Canada.

A silver cigarette case donated by the Maritime Dental Supply Company for competition by Maritime dentists only was won by Dr. Garfield of New Glasgow.

Dr. Fred Malloy, of London, Eng., a former Canadian, donated a silver cup for handicap men over 20. It was won by Dr. Leon Fluke. The runner-up was Dr. Millett of Dartmouth, who carried off one dozen golf balls donated by the Lavis Chemical Company, of Montreal.

A gold cased tooth brush donated by the Pepsodent Manufacturing Company, was won by Dr. J. M. McGee, of Saint John.

Dentists who became members of the Canadian Dentists' Golf Association are as follows:—Dr. Harding, Yarmouth; Dr. Millett, Dartmouth; Dr.

McGuire, Ontario; Dr. Clay, Calgary; Dr. Armstrong, Ottawa; Dr. Langille, Truro; Dr. Garfield MacDonald, New Glasgow; Dr. E. E. Robbins, Prince Edward Island; Dr. Fluke, Dr. Climo, Dr. Oxner, Dr. Logan, Dr. Thompson, Dr. Rice, Dr. Gray, and Dr. Henigar of Halifax; Dr. H. A. Crowell, Dr. J. M. Dixon, and Dr. Hart.

Elected to the Dental Board of Quebec

Theo. Cote, Ernest Charron, Armand Massicotte, Geo. Pelletier, J. M. Goselin, Denis Forest, Gerard Plamandon, Tancrede Asselin, Robert Mackay, of Montreal; E. Lomer Lafond of Hull; Wilfrid H. Monette, of St. Johns, Quebec; W. G. McCabe of Valleyfield; R. Lalonde of Ville Emard.

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President—J. W. Clay, Calgary.
Vice President—F. J. Conboy, Toronto.
—2nd Vice President—M. H. Garvin, Winnipeg.
Secretary Treasurer—J. S. Bagnall, Halifax.

Officers of the Canadian Dental Golf Association

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Vice President—W. M. McGuire, Simcoe, Ont.
Secretary Treasurer—W. C. Oxner, Halifax.

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President—George K. Thompson, Halifax.
Secretary Treasurer—W. D. Cowan, Regina.

Officers of the Nova Scotia Dental Association

President—J. I. Roach, Wolfville.
1st Vice President—Dr. Melane, Yarmouth.
2nd Vice President—J. P. Porker, Sydney.
Secretary Treasurer—J. S. Bagnall, Halifax.
The next annual meeting will be held in Sydney.

National Dental Association

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Red Cross Dentist Helps Indian Children

By R. H. MURDOCK, D.D.S., STAFF DENTIST OF MANITOBA DIVISION

The Red Cross in Manitoba recently had the opportunity of giving much needed help to the Indian children at Fisher River and Peguis Reserve in a remote district of the province. As these children have no one to care for their teeth, I was asked to pay them a visit arranged by the Manitoba Division of the Canadian Red Cross Society and the Department of Indian Affairs.

Accompanied by Mr. Stevens, a Methodist missionary, I took the train from Winnipeg northwards to Hodgson and then drove to Fisher River. From Hodgson to Fisher River I think is about thirty miles. This would not be far over ordinary roads, but the state of the roads was beyond description. On several occasions our horses went down and it was a struggle to get them out. This was before the very heavy rains which started on the Sunday after our arrival and continued almost steadily for about eight or nine days.

Ninety-One Per Cent. With Defective Teeth

After examining all buildings close to the school I accepted Mr. Stevens' kind offer of the dispensary of the mission as an operating room in which we could attend to the children. On Tuesday, after checking

over the school, I found 91 per cent. with defective teeth—this giving us nearly 100 children under the ages of eighteen who required dental attention.

Monday I set up my chair and equipment and by Tuesday night the clinic had started. The children came very willingly, thanks to the co-operation of Mr. and Mrs. Long, the resident teachers at Fisher River.

Right here is a good place to give a slight description of the conditions under which the clinic was conducted. The mission and school are situated in a few acres of clearing which is higher than the surrounding country. Both the school and the Mission are on the banks of the Fisher River, about four miles inland from the mouth of the River of Fisher Bay. The buildings are frame and the out-buildings log and all are well equipped inside, so that both missionary and teacher have comfortable living quarters. The buildings extend as far up as Dallas and down to the lowlands along the Bay shore. It is indeed a pretty place in summer and a fine place also for mosquitoes. Crossing the river in front of the school is a log footbridge used by the Indian children when going to and from their day school.

Unfortunately directly the clinic started on the Tuesday, down came the rain so that practically all the children had wet feet. This would have made them more inclined to have septic trouble after extractions. Indeed in several cases I postponed treatment until another day when I thought it might be dry. Besides the children we had several adults wanting extractions and as they had toothache I could not very well turn them down in spite of the fact that our clinic was really a children's clinic. In the past Rev. Mr. Stevens has had to do a lot of extracting because very often the roads are too bad for the doctor to get down and when the doctor did happen to be there the chances were that the teeth did not ache, and so the patient did not show up. The Indians, like a lot of other people, do not believe in showing a tooth to a dentist unless it is aching.

During my stay in Fisher River it rained nearly every day. The river rose and on the fifth day of my visit the children's footbridge was impassable. The day before the bridge went the Indian Agent, Mr. McCuish, who was down to pay out treaty money, had a narrow escape from being drowned when his buggy upset in mid-river and he was thrown out in water nearly up to his shoulders with a very rapid current. As Mr. McCuish has had paralysis he is unable to swim and had he been taken off his feet a rescue would have been very difficult indeed in such a strong current. As it was he lost his blankets and everything in the rig. The treaty money was being carried over the footbridge or it would have gone too.

Against all odds, rain and high water, I was more than kept busy during my stay in Fisher River. A test was made of the adult work to see what the cost of a plate would be. While in Fisher River I made up two plates for an Indian woman who had the extractions completed over a year ago. I figured the cost of material approximately five dollars a plate. Of course, this is not the most expensive, but is something that I think would do for the majority of treaty cases. For the children some two hundred fillings were completed and about the same number of extractions for children and adults. Some forty children received treatment, and there are twice as many more to receive treatment at some future date if arrangements can be made.

I had intended to put a clinic on in Dallas on the way back, but owing to the impassable condition of the roads I did not see how the children of the white settlers could possibly hope to get to Dallas and I accordingly called it off.

After a good deal of delay I finally got an Indian to risk his team through the mud as far as the Halfway. Mr. McCuish had figured that we might take it up the river by boat, but I thought it unwise to do so. The equipment is insured for \$1,000 against fire but not against water, and I felt it was too great a chance to take.

So on Tuesday evening at nine p.m., after a drive of nearly all day through pouring rain my Indian teamster and I reached the Halfway, both soaked to the skin but our equipment dry, as we had big tarpaulins over it.

On Wednesday I set up my equipment in Dr. Bird's office, the resident doctor at Halfway, and on Thursday we inspected the Peguis reserve schools. We found 95 per cent. of the children with defective teeth and several with external openings on their throats as a result of acute abscesses. I do not believe I have ever seen in all my work in out-lying districts so much suffering directly caused from dental sources as in these two reserves. In many cases Peguis was a duplication of Fisher River, only the rain had stopped and the roads were much better. Here, again we were overwhelmed with work and had to turn over a hundred away. Even with both Dr. Bird and myself working till late in the evenings it was impossible to get anywhere nearly through in the month allowed for work among the Indian children. Here again I had a very worthy adult case—a half-breed veteran of the Soudan—but whom I was forced to turn down rather than turn away any more children. The old gentleman was very disappointed.

I wish to mention the case of a boy of fourteen who had been suffering with severe toothache for several years but was afraid to have his tooth extracted. As a result he developed an acute alveolar abscess, the pus burrowing through and discharging on his throat. Dr. Bird and I gave him gas, extracted the roots, and in three days he was well on the way to recovery. This is only one case out of five that we had during our stay. No wonder that tubercular trouble is developing at a rapid rate amongst children living in these reserves when they have such septic mouths. This poison is a sufficient load for the system to carry without the additional burden of influenza and T.B. following.

In conclusion I wish to thank Mr. and Mrs. McCuish for their kind hospitality at the Halfway House, Dr. Bird for his invaluable assistance, Rev. Mr. Stevens for his hospitality at Fisher River, and all the teachers and missionaries for their kind assistance because the results could never have been accomplished without co-operation between us all.



The Odontographic Society of Chicago

The Odontographic Society of Chicago announces a testimonial dinner to be given in honor of C. Edmund Kells of New Orleans, La. Dr. Kells is one of dentistry's most devoted disciples, and most active, versatile and beloved representatives. He is also the first American dentist to apply the Roentgenogram to the practice of dentistry. A special literary feature coincident with the dinner will embrace a symposium on "The Dental Hygienist" by Dr. Kells, as the guest of honor, Dr. Thomas J. Barrett of Worcester, Mass., and Dr. Alfred C. Fones of Bridgeport, Conn.

The problem of the Dental Hygienist is one of the most important issues confronting the Dental Profession today, and the essayists selected, together with Dr. Kells, are the most brilliant thinkers and writers on this subject at the present time.

The testimonial dinner is a deserving tribute to Dr. Kells, and the literary feature will be an educational treat to all present, and should aid much in solving this problem for the future.

Every ethical dentist throughout the United States and Canada is cordially invited to be present on this occasion.

The dinner and discussion will be held in the Grand Ball Room, Hotel LaSalle, Thursday evening, October twenty-first, nineteen twenty-six at six o'clock.

Remember the date and help to make this occasion a fitting honor to one of dentistry's most active and lovable characters by being present.

Dewitt C. Bacon,

President.

Hart J. Goslee,

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Vol. XXXVIII

TORONTO, SEPTEMBER, 1926

No. 9

Some Observations on Dental Meetings

Now since the most important Dental Meetings of the year have been held it is a good time to take stock of their doings. It is becoming a question in the minds of many whether the large meeting is the equal in point of interest to the average dentist with the smaller one. The human mind has only so much capacity to take instruction. It oftentimes reaches the saturation point long before all or even a small fraction of the program has been presented. Large organizations have recognized these facts and consequently provide a varied program and divide the whole society into sections. They have recognized that all are not interested in the same things and if they were they could not all see everything. The writer had an interesting experience in this regard at the Philadelphia Congress just past. He picked up a program which had evidently been in use by its owner for some days. It was marked here and there, and on the last page was a time table evidently for his own guidance because at the bottom was plainly written "Damn it Stick to it". The owner had evidently recognized how easy it is to pass from one thing to another and come away with nothing. The planning and housing of a dental meeting depends upon a great number of factors: chief of these are the number of attendants expected, the length of the meeting and the character of the subjects presented. A meeting which is planned for one hundred members is usually a disappointment if only fifty attend but not necessarily a failure; but if

three hundred should attend the officers feel elated, but the member feels aggrieved because he leaves the meeting with a very sketchy remembrance of what it was all about. Once a meeting gets beyond three hundred an entirely different kind of organization is necessary. Even general sessions cannot be attended with profit if more than three hundred are present. Few subjects permit of being spread out so thinly. Large meetings must be divided into sections for papers, addresses, lecture demonstrations and clinics. Members must make up their minds that they cannot see and hear everything and even if they could it would be impossible for them to take it all in.

The success of any meeting depends very largely upon the housing of it. If a meeting is held in the same place for a number of years it will go better than if changed from year to year. Generally speaking a meeting with all its ramifications, exhibits, clinics, demonstrations, lectures, eating, sleeping and social arrangement under one roof will be more satisfactory than spread out into several lecture halls or laboratories no matter how well these may be equipped for the purpose. There is always one great drawback to the one roof housing of a meeting. The noise! Oh the noise, clattering voices, squeaking doors, humming motors, clang of elevators, and the roar of traffic. When these are all combined they are even worse than the inconvenience of moving from one building to another. But let no committee of arrangements for over three or four hundred members be persuaded to use the beautiful buildings and class rooms of schools, colleges or universities, unless there is one assembly room for all and other rooms including restaurants and etc., under one roof. Strangers can never find their way about vacated buildings which were built for a purpose and not for conventions. The bump of location is very small in most heads when it comes to finding their way about where there are few signs and much small type instruction in a hundred page program or better described as a catalogue.

Gradually all the smaller dental meetings are being held in hotels where the numbers can sleep, eat, work and chat for the two or three days of the meeting. Hotels are catering for such gatherings, but when five or six hundred are to be accommodated there are difficulties of dates, rooms, currents, water and etc. The Ontario Dental Society has tried many places of meeting. Public halls, Dental College, Y. M. C. A., schools, University buildings and hotels. Judging from the expressions one heard, it would seem as if a large hotel is much the more satisfactory. The Canadian Dental Association has also tried many places of meeting and like other societies has found short comings in many of them. If it were not for the local noise a great tent would meet all the needs. The great congress just closed at Philadelphia had an ideal building but for the noise. The reception room and registration room was ample. Eleven lecture rooms seated for many hundreds were side by side and opening into a lobby which flanked the exhibits on one side and the restaurant on the other. For the clinics the lecture rooms and lobby were cleared of walls, seats, chairs, wiring and other equipment. The whole scheme was wonderfully carried out but beaverboard walls will not keep out the noise of chattering thousands, applauding listeners and rumbling motor fans. The weather was not so hot that the fans needed to be kept running.

A committee of arrangements must provide a program for all who attend even to the care of the children of the members. Scientific subjects.

orations, essays, reports, exhibits, historical and mechanical, clinics, demonstrations, hotels, restaurants, musical, vaudeville, dancing, sports and sight seeing. The modern dental meeting makes great demands on its organizers.

Notes

The department of public health is giving dental advice at the Canadian National Exhibition under the direction of Dr. F. J. Conboy.

Among the candidates for the Dominion House we notice the names of Colonel E. F. Armstrong, Cobalt, Ontario; Matthew McKay, B.A., Pembroke, Ontario; and O. B. Price, New Brunswick.

Dr. Larose, Montreal, declares in a petition to the courts that the elections to the dental board of Quebec, held July 26th, were irregular in that the registrar refused to accept nomination papers and that qualified electors were refused the right to vote and that voting papers were given to persons not qualified to vote.

Australia has dental departments attached to the Universities of Sydney, Melbourne and Adelaide. Students receive instruction in anatomy, and pathology, with the medical students, and then go to the dental hospitals for training in dentistry. Many of our graduates proceed to the United States, London and Canada to take further degrees of post-graduate courses.

Report of the Oral Hygiene Committee, Canadian Dental Association

Although hampered by lack of funds, a few things have been accomplished by your committee by working in conjunction with other agencies.

The American Academy of Periodontology prepared two excellent bulletins, entitled "Children's Teeth, how to use and keep them," and "How to build strong teeth." After some correspondence they very kindly granted the Canadian rights of publication to this committee. Not having sufficient funds to print them in the large quantities necessary, representations were made to the Canadian Red Cross to print and distribute one, and to the Dominion Department of Public Health to adopt the other. As the Canadian Red Cross already have a folder on the teeth, prepared for them by this committee, they have not yet taken action, but it is hoped they will do so as soon as their present supply is exhausted. The Dominion Department of Health accepted quite readily, and only a few weeks ago sent me wrappers, which through the kindness of the Ash-Temple Company, have been addressed to every dentist in Canada, and returned to them. In due course a supply will be sent out to the profession, and copies sent to anyone who will take the trouble of writing for them. We hope also to distribute some at this meeting.

The Ontario Department of Public Health submitted to this committee a folder on the teeth, for revision. After rewriting it, they have adopted it and printed and distributed large quantities.

Some work has been done in connection with preparing a catalogue of slides for use in giving talks to the public. Fifty slides have been collected and arranged in a series of two lectures, with suitable outline texts. The plan was for the Association to print a catalogue, reproducing cuts of the slides, and opposite each the explanatory text, together with information where they could be secured and at what cost, the Association to undertake the cost of printing and distributing these catalogues. Arrangements were then to be made with optical houses at different centres throughout the dominion to carry these slides in stock for either rental or purchase by any dentist who desired to give a talk in his community. It will cost \$300 for cuts and printing for 1,000 of these catalogues, and as this committee had not sufficient funds, representations were made to the Ontario Oral Hygiene Committee, who voted \$200 for this purpose, they to receive 600 copies and look after their distribution in Ontario. This Association would require to put up \$100 for the remaining 400 copies, and I would strongly recommend that this amount be voted for this specific purpose. I think this would be a sufficient number to print, as they need only to be sent out on request to those specially interested or about to deliver a lecture, and, when exhausted, the slides and subject matter could be revised. These slides and other material were shown as part of the Health Exhibit of the A.D.A. in Cleveland last year, and were also exhibited at O.D.A. in Toronto this year.

The oral hygiene movement has been very active in Ontario. The large graduating classes of the last two years have been active in stimulating interest in the communities where they started practice, and the demand for slides, charts and other material for use in giving talks has been very heavy. The Ontario Committee prepared a very excellent little bulletin, entitled "Outline Lectures for use by the dentist in giving talks to the public," which has been widely distributed in Ontario, and numerous requests for it have come from other parts of Canada and the United States. A supply has been secured for distribution at this meeting. The Ontario Committee have also purchased a moving picture film, entitled "Tommy Tucker's Tooth," which is available for use. The Ontario Government are taking a keen interest in the oral hygiene movement, and have promised to appoint a Director of Dental Services at an early date. The following letter from the Deputy Minister of Education for the Province tells of the work already being carried out:

"I am directed by the Minister of Education to acknowledge the receipt of your letter of July 21st, and in reply to state that this Department has exercised such supervision as has been presumed necessary over the dental service in the schools of the province through the Division of School Hygiene, under the direction of the Chief School Medical Officer for the last three years. As you are undoubtedly aware, legislation was brought down at the last session of the Legislature, permitting the transfer of such supervision to the Provincial Department of Health, under regulations laid down by the Department of Education. This it is planned to do at an early date.

"Dr. Phair, Chief School Medical Officer, tells me that the school boards and local health authorities in the smaller centres are taking a very keen interest in the question of Oral hygiene, and that the number of municipalities throughout the province having dental supervision of the school children has more than doubled in the last three years.

Occlusion of Teeth

Mr. Hanau recorded in Ottawa the same conditions as he found prevailing elsewhere from coast to coast in the States. In his experience of checking-up full denture cases for investigation or correction, it was found that in the examination to date of about one thousand cases made on arbitrary instruments that only one, single, solitary case goes on record as being correct as regards balanced articulation.

This case occurred in California, and was an accident; an accident in that the particular articulator employed was sitting idle on a shelf in the dentist's laboratory; and a further accident insomuch as the patient just happened to fit that particular articulator.

Like a well-known Roman General of old, who on one occasion of victory dispatched "Veni, Vidi, Vici," "I came, I saw, I conquered," Rudolph L. Hanau has convincingly carried all before him and demonstrated to us our errors of the past and their means of correction. His demonstration was most gratifying and encouraging in that with care and understanding we can avoid our past mistakes and build up for our future patients, dentures of comfort, satisfaction, greater efficiency and longer service.

Patients, with records of having numerous dentures made all of which proved to be failures, were presented to the class. The reasons for failure were clearly pointed out by Mr. Hanau, and those dentures which were within correctible limits were by means of the Hanau technique converted into comfortable efficient dentures. This feat was performed in some cases in less than one hour. Other cases were so far off as to call for complete reconstruction.

The week's course of evenings only, and one afternoon, was most profitably spent, and will repay one hundred fold, financially to ourselves, in comfort to our patients, and in the peace of mind that we have seen the light and can thereby render a service, heretofore impossible.

The Dental Study Club of the Ottawa Dental Society has gone on record as recommending its early investigation by similar organizations, and that no prejudice or undue influence should stand in the way of its serious consideration.

While some may state that the Hanau technique is inseparable from the Hanau articulator for full denture cases, we feel that the principles involved and so clearly demonstrated have given us a new and broader conception of functional occlusion than we ever had before, and are applicable in general practice, not only in full denture cases, but also in partial dentures, in fillings, inlays, onlays, crowns, bridges, periodontia and preventive periodontia cases.

Let honor be given where honor is due, and may the time soon come when full recognition will be given by the profession at large and all concerned for the invaluable services rendered to a tolerant and long suffering public, rendered by one of an allied profession with the genius to conceive, contrive, and adopt ways and means to surmount which, heretofore, had been a stumbling block to our profession.

Our aim is to "carry on" in our Study Club the Hanau technique and

its application, and thereby obtain and maintain greater efficiency in our chosen profession, and render a greater and broader service to humanity.

LORNE E. MacLACHLAN,
Secretary Treasurer.

The Alberta Dental Association

504 Tegler Building,

Edmonton, Sept. 1st, 1926.

Dear Doctor:

Our Circuit Clinic plans for this year have been completed. We have secured Dr. Oscar DeForest Davis of Minneapolis, a man who has been giving considerable thought to the systemizing of Partial Dentures. He will put on Partial Dentures, with some Crown and Bridge Work.

Of our Clinician Dr. Thos. Hartzell says: "The ideal man to do your work is Dr. Davis. He is a most remarkable teacher and he will bring you material which is away ahead of anything now being taught. If you can get him you will certainly be most fortunate. He has been so much in demand that it has interfered with his business. He has made a very great many teaching models and has finished some new ones which he will exhibit at the International Congress in Philadelphia."

Dr. Alfred Owre, University of Minneapolis says: "Dr. O. DeForest Davis is doing a lot in partial dentures and is certainly a man of great ability."

"Dr. Davis is at present taking part at the Philadelphia Congress and on his return will come to us. He says: "I work with clinical technic models of individual teeth, as well as completed finished cases." All practical.

We have decided to ask no fee of any kind from any person. Local Societies can arrange for their local entertainments at their own expense; everything else, even to a gift for our Clinician, has been provided for out of your surplus Board funds.

Each District headquarters has a class of two days and wants *you* to join it.

SCHEDULE

Medicine Hat, Sept. 27 and 28thSec'y Dr. P. H. McNichol
Lethbridge, Sept. 29 and 30th.....Sec'y Dr. L. T. Allen
Edmonton, October 4th and 5th, Sec'y Dr. Alex. Gemeroy, Kirkalta Block.
Calgary, Oct. 7th and 8th, Sec'y Dr. Harvey Duncan, 409 Herald Block.

Remember how successful we were last year and come again.

Yours truly,

Leslie McIntyre, Secretary.



Doctor A. E. Webster,
Toronto, Ontario.

Dear Doctor Webster,—

Once again I am calling on you for what assistance and advice you may be able to give me.

Patient is a man fifty years of age, and in fairly good health. He first presented several months ago edentulous, another dentist having removed his teeth two months previous to that, and complained of a neuralgic pain in the upper right bicuspid region. The gums had healed very nicely and when the pain persisted in returning at intervals an X-ray was taken, but showed nothing wrong. A couple of weeks later full X-rays of the face were taken, and these showed no pathological condition. Medical advice was sought, but the pains persisted in coming on at more frequent intervals, lasting longer and the pain becoming unbearable. Both the physician and myself concluded it was Tic Douloureux, and in order to give him relief an alcohol injection was tried. I had "Buckley's" formula—R, Cocainae hydrochloridi, gr. 1; Chloroformi, m. x.; Alcoholis, fZ 111. Aquae distillae q. s. ad. f. oz. ss.—M. Sig. Use as directed above.—filled in by the local druggist and injected one c.c. in the infra-orbital region. Patient returned in a short time and said pain had stopped in the bicuspid region but that there was still considerable pain anterior and posterior to that, so to make a complete job of it I injected about a $\frac{1}{2}$ c.c. around the post, and Ant. Palatines. This gave complete relief.

The injections were made on the ninth and on the twelfth he returned and complained of soreness or more of an idea that something was wrong with his mouth and I'll surely say there was for there was a complete sloughing of tissue to the bone where the Ant. and Post. injections were made, but at the point of puncture for the infra-orbital there was no sloughing. The slough areas are about an inch in diameter and closely resembles arsenic poisoning. On consulting the druggist he admitted that he had not used distilled water but that otherwise had followed directions. The water used was well water. The injections were made slowly and I am sure everything was sterile.

Please advise as soon as possible as to your diagnosis, cause of sloughing, and treatment of present condition. Pain was completely stopped and on account of anaesthetic effect can not ascertain whether sloughing is taking place in deep orbital region or not but presume that quite probably is to some extent.

Thanking you for any assistance you may be able to offer, I am
Yours very truly,

G. M. McKay.

Death of Dr. J. W. E. Monfries

A life of exceptional promise was brought to a close in the death of Dr. John W. E. Monfries, dentist, of Adelaide, Australia, who died in this city on Friday, Sept. 3rd, at the age of 23 years. He had attended the recent meeting of the Canadian Dental Association in Halifax, and was apparently in the best of health and spirits, but shortly after his return was stricken, the end coming only two days later.

Dr. Monfries was graduated from the University of Adelaide, in the Faculty of Dentistry in 1924, and after one year's work in the dental services of the Australian Government, he came to Toronto and began a year of postgraduate work in the Faculty of Dentistry in the University of Toronto. After a highly meritorious course he received the degree of Doctor of Dental Surgery in the annual commencement of the University in June, graduating in eighth place in his class. Dr. Monfries had planned to remain in Toronto until the spring of 1927 to gain further experience, and to return at that time to begin practice in Australia.

While of a studious and rather retiring nature, the many fine qualities, and the charm of the late Dr. Monfries' personality drew to him a large number of friends, among both the Dental student body and Faculty, who feel a keen sense of regret at his loss, and of sympathy for his parents and friends.

Dr. F. C. Harwood, Moose Jaw, addressed the Rotarians on the subject, Dentistry.

A Saskatchewan dentist disappeared from the home of friends where he had been visiting. His wife notified the police fearing foul play or accident.

A writer in the Toronto "Telegram" draws a long bow when he says the average income of the Toronto dentist is \$7,500 and that there are many who earn 40 to 50 thousand a year. We are rather suspicious of the source of such information. It is intimated by the same writer that the specialists make the big incomes.

A GRADUATE DENTAL NURSE desires position, preferably Toronto or Hamilton. Have excellent references and have had about 3 months general office routine experience. Box 38, Dominion Dental Journal, 73 Richmond St. W., Toronto, Ont.

Dominion Dental Journal

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No. 10

ORIGINAL COMMUNICATIONS

The Treatment of Pyorrhea Alveolaris

PROFESSOR B. GOTLIEB, VIENNA, AUSTRIA

Address delivered before the Faculty of Dentistry, University of Toronto.

It is difficult to speak on this subject in a city where so eminent an investigator as Dr. Box has lived and taught. Before entering on the subject, however, I wish to mention something on the etiology, anatomy and physiology of tooth eruption. Pyorrhea alveolaris is a very complex and complicated disease. The physician thinks of it as a flow of pus from the gums, having its origin in the bone and around the teeth. But these conditions are not all present at the same time. The teeth may be loose without a flow of pus, or there may be a flow of pus without very much loosening of the teeth. A flow of pus is usually associated with deep pockets.

The usual conception of teeth erupting completely within a few months or even years is not accurate. Teeth in most cases continue to erupt throughout life, so it is difficult to say just what is a physiological extrusion of the teeth and what is pathological. The distance a tooth erupts is as uncertain as the length of the tooth itself. Some people's teeth are much longer than others, and some teeth have much deeper free margins of gums than others. Short teeth at forty years of age and loose might be quite physiological, but long teeth at the same age when loose would be pathological. So there is no rule as to length of teeth, their looseness, or the length of eruption, depth of free margins or pockets. In many cases molars and pre-molars are the first to be lost, although they have large and many roots. The reason for this is a malocclusion of these teeth. Usually teeth regulate themselves by wear. If the pressure is too great on a tooth it wears away more rapidly than its neighbors and thus frees itself, but as the soft parts of the teeth are reached wear is greater with equal friction. In such cases the dentist must grind the occlusion to equalize the pressure and prevent destruction of the tissues supporting the tooth.

The view has been long held that calculus on the teeth was a cause of their loss. It may contribute a factor in the production of an inflammatory process. Its removal should not be looked upon as a therapeutic measure in the treatment of pyorrhea, but rather as a cosmetic. All the tartar should be removed and the patient taught how to brush his teeth before a diagnosis is attempted.

There is no positive rule by which it may be known how much trauma may be applied to a tooth to keep it in a physiological state. A pressure which would only act as a stimulant in one person might bring about a traumatic injury in another. Even every tooth in the same mouth is not equally resistant to pressure. In youth, pressure and exercise of the teeth will act as a stimulant, while in middle life equal pressure might cause tooth looseness or the formation of pus pockets. The devitalization of the pulp of a tooth or the stimulation of a band around the gingivae, or even an abutment of a bridge carrying an excess load will sometimes be just the amount of stimulation necessary to maintain a physiological state, while in others these things would cause a diseased peridontium. There can be no rules as to how much pressure is normal. There is no normal.

There are teeth which move about, especially the incisors, without any traumatic case. Central incisors may begin to separate rather suddenly and cease quite as suddenly without any apparent reason. They will become extruded even in spite of an occlusion. Oftentimes such teeth become sore to bite upon and are ground out of occlusion only to elongate more and more until the pulp has to be removed and the tooth finally erupts itself out of the socket. In these cases there does not seem to be any inflammatory process or pocket formation. There is usually a general drifting of all the teeth to the median line. The cause of such drifting is not fully understood. There is a hypertrophy of the pericementum.

At about 30 years of age the gingival crevis is at the cemento enamel junction. And as age advances the crevis passes up and up the root of the tooth. If by the ordinary treatment pus does not cease to flow the pocket should be obliterated by cutting the flap of gum covering it away.

In those cases where there is a drifting of the teeth and absorption of the tooth root, the administration of Fowler's Solution is of great benefit. It should be given in rising and falling doses as advised in any good work in therapeutics.

Dr. McColl, of New York, was called upon to describe a method of treating pus pockets which he has employed with much satisfaction. After a pocket is cleaned out, the lining soft tissue wall is hard to rid of its epithelial lining. To do this he packs the pocket with cotton saturated with a solution of sodium sulphide and sodium carbonate in water, leaving the dressing in situ for ten minutes. In some cases a second treatment may be necessary. Dr. Box suggested that digital pressure be applied over the flap for some minutes after the packing has been removed.

Why Preventive Dentistry is Not a Vital and Active Factor in the Dental Profession

THADDEUS P. HYATT, D.D.S., F.A.C.D.

Read before the Canadian Dental Association, Halifax, 1926.

Mr. President, Members of the Canadian Dental Association and Friends.

It has been difficult to select a proper title for my paper. It is my purpose to try and explain why a certain mental attitude and a certain psychology is found in our profession, which inclines men to disregard the importance of early treatment of non-carious pits and fissures. This mental attitude commences with the student during his college life and generally stays with him throughout his professional career. This mental attitude is also helped by the respect given for certain types of operative work because of its artistic merits and because of the mechanical ingenuity and skill shown. It is also based on the fact that the vulnerability of pits and fissures make these places far more susceptible to caries than is generally realized.

The relation of dental work to the health of the individual is not fully appreciated because not understood. This is largely because until within recent years dental problems have not been included in public health work. Therefore, it has been quite natural for a large part of our profession, and for many of our colleges to view the entire subject of dental services from the mechanical and scientific side, rather than from the health point of view.

Another factor which has made it difficult to secure the co-operation of dentists for children's work lies in the fact that until recent years there has been no special course devoted to child problem. Students as yet not perfectly skilled in the technique of operative work or of handling patients are permitted to work for children. Conscious of his inability and shortcomings, embarrassed by the publicity of a dental infirmary, the student is badly handicapped when the child is frightened, unwilling or unable to respond to his direction.

It is doubtful if many of the students have ever studied child psychology, or, if they have been given the opportunity to become acquainted with their little patients in congenial surroundings before taking the child into the operating room.

We can picture the child's first entrance to the dental dispensary of the average college. There he finds patients of all kinds; men with swollen faces; women suffering pain; all in one big waiting room. There the child sits in nervous dread of what may happen to him. Soon comes a strange man with a white jacket and tells him to come this way, and he is led into a large room with many chairs. He hears someone cry out in pain. He sees men moving around. To the child's mind confusion reigns supreme.

Unless the student is a child lover, and has understood child life before entering college, is it any wonder that he will be incompetent to handle this child, and in fact grow to dislike having to do anything for little children?

Such a student's whole professional career will necessarily be built on the desire for the easier work, the more artistic work, and to him the

more satisfactory work of making gold inlays, bridges and porcelain jacket crowns for adults. What a delight and what a triumph to have succeeded in creating a beautifully artistic piece of prosthetic work which goes to place, but with little or no trouble. Can we not see the other students crowding around him and admiring his skill and ability, as well as his artistic taste?

Can we imagine that such a student after graduation will have in his cabinet fine pointed sharp explorers for the purpose of detecting small and insignificant pits and fissures, which will only require pin hole fillings and probably only be filled with amalgam? Can we not picture him constantly on the lookout for an opportunity of making a Carmichael bridge or a beautifully constructed moveable-removeable bridge? Do we find at dental meetings men bringing samples of their pin hole fillings nicely polished? Is it not rather the usual thing to find men bringing samples of M-O-D gold inlays or a fine piece of restorative work to replace teeth which have been lost because of our profession's lack of interest in children's work along preventive lines?

But this is the dentistry of the PAST. The dawn of a new dentistry is now appearing.

The great work of the present day, within the colleges, and within the rank and file of our profession, is to create and build up a new psychology, which will give recognition to dental work done from the health point of view. To secure the admiration of our confreres, when they see a piece of work in the mouth which they recognize at once, will maintain the integrity and vitality of the pulp, and thus show greater promise for the retention of all the teeth for the life of the patient. We cannot expect to do this in one day, a month, or even in one year, but all men who are interested in the building of an ideal and who are willing to work for the dental health of mankind should co-operate and stimulate the principles of preventive work for children. Our colleges must undertake as rapidly as possible the providing of a separate reception and operating room for little children.

No student should be allowed to handle a child before he thoroughly understands the psychology of children. No student should be allowed to PRACTISE on a child. No child should be used as a subject for a student to DEVELOP a technique. No student should be permitted to work in a child's mouth if he has not passed an examination showing his technical ability in all kinds of operative work, and which he has learned and acquired by working on models, manikins and adults.



Our Profession and Our Colleges Must Recognize that Though a Pin Hole Filling Is In Itself a Simple Operation, the Performance of This Operation on a Little Child Requires the Highest and Finest Technical Skill and Knowledge

To have acquired the ability to operate in the children's Clinic should be considered the highest honor the student can win. It should be made a necessary requirement for graduation.

The crowning success and the highest ideals to be obtained as the result of the training and education in any dental college should be the ability to handle little children and to so successfully practise preventive dentistry that pulpless teeth will become such a rarity that when one is seen it will cause amazement and astonishment. Such an attainment is both practical and possible.

In my paper I have endeavored to show *why* the ideals of preventive dentistry are not a vital and active factor in our profession. I have endeavored to do this without adverse criticism because I fully realize this entire subject is only a necessary and logical step to a bigger and a better appreciation of the relation existing between dental service and health of the community.

With this introduction, Mr. President, I will now read my paper.

Our profession has long recognised the fact that well shaped and well formed teeth have a greater resistance to caries than poorly formed or badly shaped teeth, or teeth with imperfectly calcified enamel. Dr. Miller writes: "This resistance depends to a certain extent on the structure of the teeth, on the perfection of its external enamel crust, the enamel cuticle, and on its freedom from fissures, cracks or weak lines as are produced by uncalcified prisms." (1) Dr. Bunting writes: "The teeth themselves must be well formed, with hard, smooth enamel and free from deep pits and fissures." (2).

Mr. Broderick, of Bournemouth, England, has devoted much time and study to what are the effects of calcium metabolism on the teeth, and he "considers that the integrity of the enamel is the all important thing. If this is sound, no caries can occur, but if one little speck of dentine is exposed, caries does occur unless prevented by the skill of the dentist." (3)

Knowing this and knowing also that deep pits and fissures are vulnerable areas which are always liable to decay, it is strange that our profession and our colleges have not taught this truth in such a way as to make the practice of treating these places before decay starts more universal.

Dr. Pickerill, of New Zealand, writes to me that the treatment of fissures was taught, when he was at college in London 25 years ago, and many other Professors of Operative Dentistry in the Colleges of our own country write and tell me the same thing.

This being true, it is hard to understand why so many have greeted the proposal for treating these pits and fissures *before decay starts* as something strange, radical or startling. In the State Examination papers which I have had the opportunity of seeing, no questions are asked regarding pin hole fillings or the treatment of fissures, or even the treatment of caries in its incipient stage. How can the importance of this work be believed in by our graduates when it is so thoroughly ignored as a *requirement* for their graduation?

Perhaps, one of the explanations for this is because the theories of susceptibility and immunity being dependent on mouth conditions have been too readily accepted, as final and correct. Dr. Black in his paper on "Susceptibility and Immunity to Dental Caries" (4) writes as follows: "Local immunity from caries in mouths in which caries is progressing is constantly before us. When we take account of those positions on the surfaces of the teeth where caries is liable to attack them, and in which we are constantly observing the attacks of caries, we see at once that there are widespread local immunities of regions in every mouth. In this case caries is destroying the bicuspid and molars, leaving the incisors untouched. In the second case the upper incisors are being destroyed, leaving the molars free. In many instances the proximate surfaces are attacked, while the buccal and labial surfaces are free from caries; while in certain proportion of cases it is the buccal surfaces that suffer especially. Can this be on account of difference in the tissues of the teeth in the special localities? Is not the cause of this difference much more likely to be found in the environment of these particular localities, to something in the position that favors the building of the microbic plaques in the one place and is unfavorable in the other?"

As in the children's game of "Hot and Cold" Dr. Black was getting "Warm." It is doubtful, however, if the localization of immunity or susceptibility to caries can be given so large an area as to include certain *regions* of the mouth as suggested by Dr. Black. Statistics do not support the statement that "In the second case the upper incisors are being destroyed leaving the molars free." An examination of over 5,000 charts does not *show* one case where "the upper incisors are being destroyed, leaving the molars free."* Also it is very doubtful that when proximate surfaces suffer, buccal and labial surfaces are free; or that when buccal surfaces of molars suffer, we shall find the lingual surfaces of molars free. It is far more likely to be found, that when one surface has been affected and caries has entered into the dentine, there will be a greater susceptibility of the entire tooth to decay. This greater susceptibility of the entire tooth increases the vulnerability of the other surfaces, and they will break down more readily when exposed to danger.

Regarding the localized group of immune teeth in certain regions of the mouth Dr. Black asks: "Can this be on account of differences in the tissues of the teeth in these special localities?" My reply is: No; the difference is not in the tissues of the teeth, nor even in their structure, but the difference is in the perfect or imperfect form or shape of the tissues of the teeth.

Of course, poorly calcified, or incompletely calcified tissues will more rapidly break down when the shape or form of certain parts is such as to

*From April 1, 1926, to July 1, 1926, 5,235 patients have been examined in the Metropolitan Life Insurance Dental Clinic and not one case found.

afford protection for the undisturbed retention of acid forming bacteria. The "difference in the tissues of the teeth in the special localities" is not the primary reason for their immunity; but it is their shape and form which, permitting better freedom from the attachment of the bacterial plaques lessens their liability to decay.

It is questionable if the calcification of any tooth is harder and more complete at the time of its eruption than is that of any other tooth; yet there are some surfaces which show a far greater immunity to dental caries than other surfaces. As an illustration of this we note how seldom is caries found in the lingual side of lower laterals, and how often caries is found in the lingual side of upper laterals, and how far oftener is caries found in the occlusal side of molars; yet in every case it is doubtful if there be any difference in the density of calcification of the teeth at the time of their eruption.

In reply to Dr. Black's question: "Is not the cause of this difference much more likely to be found in the environment of these particular localities, to something in the position that favor the building of the microbic plaques in the one place and is unfavorable in the other?" My reply is an emphatic Yes; but the size of the environment or of the locality is very much smaller than that which is implied by Dr. Black. The reason for the different degrees of localized immunity or susceptibility to caries is not related so much to the different *regions* of the mouth, as it is related to those environments which are circumscribed by the anatomical shape and formation of certain parts of the enamel, and also to certain tooth surfaces, which because of their confinement or distance from the friction of mastication and of tongue and cheek movements they are not easily kept clean.

The *largest dimensions* of any *environment* for caries of the teeth is the *environment* circumscribed by or enclosed in the interproximal spaces. The greatest *number* of *environments* in which caries start are those which are confined within the limits of a fissure, a pit or deep narrow groove. This is the position that favors the undisturbed retention of the bacterial plaques and gives the needed protection for the beginning of decay.

Another reason why our profession has not made greater progress in the adoption of some operative procedures for preventive purposes which should be applied before decay starts, is owing to the teachings and the generally accepted theories of "*personal immunity*" and of "*personal susceptibility*." We have not realized the value of preventive work in the little areas of susceptibility *before decay starts* as being operative work of the greatest importance in the prevention of pulp pathosis and in the maintenance of mouth hygiene and general health. We have not studied the immune surfaces of the teeth with the idea of finding out how to treat the other surfaces so as to make them easily kept clean and thus make them also immune. We have neglected to attend to the little areas of liability *before decay starts*, while endeavoring to accomplish the larger and more difficult task of regulating and controlling "*personal immunity*" by research work in diet, ductless gland, saliva, etc.

The number of persons who are immune to dental caries is so small, being less than one-twentieth of 1%, that it is useless to consider "*personal immunity*" as being a factor of any importance when deciding what treatment should be given to enamel defects in children's teeth.

While we cannot ignore the fact that certain systemic conditions bring about lowered resistance to disease, and that while the patient suffers from this lowered resistance there is greater susceptibility to dental caries, we must notice that when caries does develop it will always be found within certain well defined areas of the tooth, and that these areas are those which are known to be vulnerable. We shall also find that these areas which, to all intent and purpose are properly called immune, that these are the areas in which decay seldom starts, even in cases with lowered resistance and even when caries is present elsewhere in the mouth.

Our profession has so long believed that the environment brought about by the contents of the entire mouth is one of the greatest factors in dental caries, that it has neglected to attach much importance to certain anatomical formations as being the real environments for most of our dental troubles. Many of the leading writers on dental caries have emphasized this. Dr. Black and other writers on dental caries have stated again and again that it is not the condition of the teeth that makes them immune or susceptible, but it is their environment. That Dr. Black meant the entire mouth and the contents of the mouth as constituting the environment is generally understood; and I have received letters from Dr. Arthur Black, his son, and also from Dr. Kirk stating this to be the case. This is all the more interesting and surprising when we realize that Dr. Black has stated truly, "It is well demonstrated that the whole saliva never becomes sufficiently acid to act on the teeth, and that so long as micro-organisms have no protection from the dissipation of the acids they form they cannot produce caries." (5) Inasmuch as several thousand bacteria will find sufficient space on the point of a pin to localize and function, the environment for their protection does not need to be very large.* We can thus understand why pits, fissures, deep narrow grooves, or those surfaces which cannot be kept clean by mastication or by the friction of the tongue and cheeks, these are the favorable environments for the undisturbed protection of the bacterial plaques; these are the environments within which 99% of all decay is found.

With floss silk it is possible for the patient to keep the interproximal surfaces clean and thus reduce the number of interproximal carious cavities. The reduction of interproximal caries is largely the patient's responsibility. No patient, however, can keep the pits and fissures; therefore, the reduction of caries in pits and fissures is our responsibility.

We find no records of research workers having made any systematic and scientific effort to control the influence of the bacterial contents of the mouth by immunizing the teeth. They all admit the inability of the free bacteria, or of the free acids of the mouth to cause decay. They all affirm that before decay can start it is necessary that the bacterial plaques shall have protected and undisturbed attachment to the tooth. Is it not strange that while admitting these facts, almost all the efforts of research workers in dental caries has been directed to the discovery of what particular kind of bacteria does the damage? Why is so little attention given to the

*"In a fissure 0.07mm. x 1mm. x 5mm. we find 2,800,000,000 bacteria. If the fissure is 0.26mm. wide instead of 0.07mm. it would contain 8,400,000,000 bacteria."—Charles F. Bodecker, D.D.S., F.A.C.D., Professor Dental Histology and Embryology, Columbia University Dental School.

peculiarities of the locations or environments within which the bacteria can win success in its destructive work? Why spend thousands of dollars trying to find a way to kill something which is harmless, if there are no places in which that something can lodge, and remaining there undisturbed can then start decay?

After many months of careful research work on the bacteriology of dental caries Dr. Bunting tells us: "It would appear, then, that if this organism plays an important role in the process of tooth caries, its activity is determined not so much by its presence in the mouth as by the environmental conditions that determine the degree of its proliferation and localization in contact with tooth tissues." (6).

It is not necessary to take exception to anything Dr. Bunting has written in this very interesting and painstaking report; but permit me to call your attention to two significant statements: One I have already read. The other is "considerable confusion may arise in such studies from the difficulty of determining the degree of susceptibility of certain mouths to dental caries at any given time. It is possible that there may be a large number of open cavities in the teeth, but at the time of observations the original caustive factors may have disappeared *and if the cavities are filled the progress of the disease may spontaneously cease.*"*

In the discussion that followed the reading of this report Dr. Bunting admitted that the acids used on extracted teeth are much stronger than is found in the mouth; Dr. Buest questions the species of bacteria mentioned in the paper; Dr. Larson states if a tooth is put into a solution of over 20% sodium oxide we get erosion of the enamel surfaces; Dr. Howe differs as to the classification of the bacteria, and Dr. Bunting again asserts that "It appears that the environment has a great deal to do with the overgrowth." We cannot help noticing that no attention and no consideration was given to where or what these environments are, and what are the possibilities of eradicating them.

Dr. Black's statements that imperfections such as pits and fissures are cause of caries, *only* because they offer the opportunity for the active forces of decay, has been interpreted by most readers and writers on dental caries as meaning that these pits and fissures are really quite unimportant. Walkoff (7) seems to hold the same opinion; having noticed that the defective calcification of the enamel of apes remains immune to caries, he concludes that such defects are much less important than has been supposed.

From what I gather in a review of the literature on the Etiology of dental caries, practically all modern writers are agreed that defects such as pits and fissures are of secondary consideration. The really important subjects to be studied are diet and what particular bacteria it is which does the most damage.

We all agree on the importance and value of proper diet in the building of perfectly formed teeth before their eruption, and on the relation of proper diet to already erupted teeth in regard to the maintenance of the general health and vital resistance. We must not overlook the fact, however, that the task of changing the food habits of an entire nation is very difficult and probably several generations must pass before it will become an accomplished fact.

*Italics mine. T. P. H.

Research workers in dental caries are bending every effort to find which of the different varieties of bacteria found in the mouth or on the teeth is really the guilty party, and how the mouth can be kept free from this dangerous foe. This absorbing and exciting chase after the elusive bacteria is still kept up in spite of the fact that there are certain localities and formation of the teeth which laugh at the free bacteria of the mouth, knowing that Williams and Black have told the truth when they said the free bacteria in the mouth can do no harm. In spite of the different varieties of bacteria; in spite of their great number; in defiance of the dangers from their acid secretions; these immune areas still keep their "shapely forms" and still remain serenely immune.

The imperfectly formed enamel of our country cousins, the hairy apes, is sadly lacking in the virtues of community when once it is exposed to the dangers of bacterial acidity found in the mouths of the children of our present civilization. These are the openings through which the bacteria gains entrance and thus starts decay within the portals of the tooth's structure. Guard then these openings before the foe enters and then the teeth need fear no foe regardless of what his name may be. No need of scarlet, green, or emerald blue, to protect the perfect form of immune and immunized surfaces.

Instead of these defects being unimportant, know there is rarely any decay when they do not exist, regardless of the bacterial contents of the mouth. The variations in the bacterial content of the mouth in different persons is not sufficient to explain caries. The difference in the shape and form of the teeth in persons with little or no caries is very marked, when compared with those who have much decay.

How can we explain the difference in the number of carious cavities in the lingual side of upper and lower laterals, when the bacterial contents of the mouth is the same for both? Do we not find a large proportion of upper laterals have lingual pits, while the lower laterals have none? Do not these pits perfectly comply with all the rules and regulations laid down by Williams and Black? Do not these pits provide the ideal environments for the undisturbed retention of the bacterial plaques? Then, inasmuch as the free bacteria do no harm to the lingual surface of the lower laterals, but do harm when provided with the ideal environments in the form of the lingual pits in the upper laterals, it seems to me that these pits are a far greater necessity for the successful starting of dental caries than are the bacteria themselves. If this is true, then all funds for research work should be devoted to finding the simplest and most perfect procedure for the treatment or removal of these important factors which are so necessary for the successful work of these tooth destroying bacteria. It must be understood that at all times I have recognized and do recognize that neither pits nor fissures nor any other imperfections or malformations of the enamel are the *Cause* of caries. There is a vital factor which we call resistance. We know very little as to how this vital factor works or what this resistance is.

The important fact to understand, and to thoroughly appreciate in this study of dental caries and the *possibility* for its *prevention* is to remember that when caries does occur we will always find the largest number of carious cavities in the pits and fissures. The next important fact to be remembered is the question of immunity of persons to dental caries. We

must learn that for all practical purposes there is no such thing as dental immunity for children in our present state of society.

Many research workers believe that calcification and hardening of the enamel continues after eruption. Mr. Caush states that "caries is either rapid or slow according to the amount of calcification that has taken place in the enamel; hence the more perfect the calcification, the slower the progress of the disease" (8). If this is true, then every enamel defect or deep groove which makes possible this undisturbed retention of the bacterial plaques should be treated as soon as possible after the eruption of the tooth and before decay has entered the tooth. This should be done for the reason that calcification, being less dense when the tooth erupts, more rapid destruction can take place.

With the exception of the mesial surface of the permanent first molars, children do not usually suffer from interproximal caries. With pits, fissures and deep narrow grooves properly taken care of, with proper mouth hygiene taught the child, and with good health and proper diet, there will be fewer teeth lost, and pulp involvement will then be a rarity.

Of course we all realize for such a plan to be successful it is necessary that certain operative procedures be evolved and perfected. It then will be taught in all dental colleges. It then will be made a necessary requirement for graduation, and also for passing State Board examinations.

In closing permit me to call attention to one phase of this subject which I believe is often overlooked.

Mr. Tyson in the British Dental Journal (9) makes the following remark in reference to Prophylactic Odontotomy: "We certainly do not practise it in Clinics because we have no time for it." Others having expressed the same opinion, I am obligated to make some reply.

It is hard to understand how anyone can fail to realize that a great many hours are practically wasted in making large compound fillings, capping pulps, treating pulpless teeth and filling roots. I have said wasted hours, because our profession has had so many failures with such treatments. By failures I mean that the great majority of these teeth are finally extracted. How different are the results obtained with pin hole fillings. These we find last indefinitely. Teeth with only pin hole fillings rarely have any pulp involvement.

Any procedure which promises the need of only small simple fillings; any procedure which can show that such fillings are practically certain to last indefinitely; any procedure which promises pulp protection and the minimum possibilities of pulp pathosis, because, no decay has entered the dentine of the tooth; such a procedure must be the greatest of all time-saving methods known to us. Add to this that such a procedure is based on the following facts:

1st.—The knowledge of the vulnerability, liability and susceptibility of certain areas of the teeth to caries.

2nd.—The knowledge that it is possible to protect the large majority of vulnerable areas so as to make them practically immune because easily kept clean.

Such facts should be sufficient proof that just as soon as dental clinics for children are established on this basis, and this procedure followed, that then there will be sufficient time to take care of double, if not four times the number of children than is possible with our present methods.

To do this successfully certain rules and regulations will be necessary. The most important being that the child must be brought to the clinic within six weeks after the eruption of the teeth. It will also be necessary to educate the physicians and nurses as to the practicability of preventive dental work and the necessity of doing this work as soon as possible after the eruption of the teeth, and thus secure their co-operation. With this co-operation, with this procedure followed, may we not hope that twenty years from now an examination will show the young man and woman of that day having all their teeth present and no pulp involvement? Then it will be possible for our profession to show proof of the value of our services to mankind.

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Advice to Oxodontia Patients

E. W. PAUL, D.D.S., TORONTO

Our personal interest in your case does not end at the completion of the operation. In order to avoid unnecessary mutual inconvenience, subsequent treatments are not recommended, except in special cases where indicated. However, if at any time following the extraction, the gums or tissues do not recover as you think they should, please return for examination.

PAIN

In most instances, when it becomes necessary to remove teeth, the infection which causes their loss has progressed into the bone and soft tissue, necessitating the cleaning up (curetting) of this area. Many very sensitive nerve endings are exposed, and these, together with the inflammation present as the result of the trauma or infection, excite after pain.

Apply heat within the mouth—Add to a glass of HOT water a teaspoonful of any good mouth wash (use hot salt water if no mouth wash is available). Hold a mouthful of this hot solution so as to bathe the sore parts. Repeat this procedure often—it allays inflammation and pain.

Where the pain is severe and sleep is impossible, take ten grains of Aspirin and repeat in two hours, if necessary. If this does not provide relief, something stronger will have to be prescribed.

BLEEDING

After the extraction of a number of teeth, it is to be expected that evidences of bleeding will be present for some time. In some cases, abnormal conditions, such as lack of coagulability of the blood, high blood pressure or weakened blood vessels cause a too prolonged and too profuse hemorrhage.

- (1) In simple cases, place a pad of absorbent cotton over the parts and close the mouth on it.
- (2) Where the bleeding is quite profuse, take a small roll of cotton, saturate in Peroxide of Hydrogen and swab the parts. After rinsing with water, you will be able to ascertain the exact source of the bleeding.
- (3) Take a cone of absorbent cotton, saturate the point of same with Tincture of Iron and pack tightly into the socket of the tooth. Take a large piece of cotton, place over and bite into it.
- (4) If this treatment fails, consult a near-by physician or dentist or get in touch with us.

Remember that the clean blood clot is Nature's protecting agent, so do not disturb the same by sucking or by putting finger tips into the sockets.

Remember when you feel something which you think is a piece of the tooth remaining, that in 75% of cases it is an exposed portion of the bone, which may require attention.

Remember that the use of hot mouth washes for several days is beneficial.

Remember that it is beneficial after any operation or anaesthetic to take a saline cathartic, and to drink plenty of water.

General Conclusions on the Study of Dental Education

AS PRESENTED IN THE TWENTIETH ANNUAL REPORT OF THE PRESIDENT OF
THE CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING
(1925: PAGES 77-78)

Dentistry is an important mode of health service that is related directly to the teeth and closely adjacent oral tissues, and indirectly to other parts of the body and to the organism in general.

Dentistry should be made the full equivalent of an oral specialty of the practice of medicine in the quality and efficiency of its service to the patient.

The unusual mechanical and esthetic demands upon dentistry have, however, fully justified and continue to require its active development as a separately organized profession.

The long continued indifference of medicine to the abnormalities and diseases of the teeth and oral tissues suggests that, if dentistry were called stomatology and added to medicine, oral health service would continue to be neglected by the medical profession.

The success with which dentists have brought dentistry to its present state of usefulness and opportunity, in the face of social disparagement and professional belittlement, and the strength of the evolution plainly in progress, indicate unmistakably that the leadership of the dental profession will develop dentistry to its full possibilities in health service.

Dentistry can be effectually and economically developed to the full service equivalence of an oral specialty of the practice of medicine through extension and improvement, in universities, of that system of dental education which, though separate from medical education, is closely related to it and should be more intimately associated with it.

This extension and improvement could be accomplished without requiring the prospective general practitioner of dentistry to become a doctor of medicine before beginning his dental training, and could best be brought about by pursuit of the following three main objectives: (a) the preliminary education and the instruction in the medical sciences should be the same in general scope and quality as for medicine; (b) the technical training, the applications of the medical sciences, and the correlations with clinical medicine should be sufficient to assure both ability to initiate safely a dependable general practice of dentistry and capacity to grow in proficiency; and (c) the most difficult phases of dental practice should be reserved for systematic graduate study.

These three objectives could be attained through the requirement of (a) at least two years of approved work in an accredited academic college, including several courses that would stimulate interest and develop ability in the prospective practice of dentistry, or reveal ineptitude, (b) and three years of intensive and well-integrated effort in an undergraduate dental curriculum for the training of general practitioners only, some or all of the years to be suitably lengthened wherever desirable to meet special local requirements; followed by (c) optional supplementary full-year graduate

curricula for advanced training in all types of dental and oral specialization.

Such a reorganization would place physicians and dentists on the same plane of intellectual quality, and would give them analogous types of health-service education. It would develop similar degrees of medical comprehension, ensure mutual respect and understanding, and facilitate intimate co-operation in the promotion of the welfare of their patients.

This general improvement in dental education would require reconstruction of the dental curriculum, with special reference to important betterment of the teaching in all of its phases, economy of time without impairment of the efficiency of instruction in dental technology, more useful application of the medical sciences, and more advantageous correlation of clinical dentistry with clinical medicine.

The proposed regeneration of dental education would necessitate, in practically all of the dental schools, prompt increase in the number of teachers of the best type, great improvement of the libraries, and active advancement of research.

Lacking endowments, and in most cases being obliged to keep the quality of their work to the level of their income from fees, the dental schools in this country and in Canada will be unable to proceed with the suggested improvements unless, individually, they receive large gifts of funds for this purpose.

The American Society for the Control of Cancer

RESULTS OF THE MOHONK CANCER SYMPOSIUM

The Symposium on Cancer Control held at Lake Mohonk, N. Y., September 20-24, was for the purpose of considering the prevention and cure of cancer from a practical standpoint, and to express in concise language the fundamental groundwork of fact and opinion upon which the collective effort now being made in the United States and other countries for the control of cancer should be continued and extended.

It was believed that there were many things which physicians and surgeons could agree upon, and that if these agreements could be expressed in simple, concise language the results would be of much value.

The meeting was brought about by the American Society for the Control of Cancer and was first announced many months ago.

Among the noted European specialists present were: Dr. Raffaele Bastianelli, Professor of Surgery at the University of Rome; Dr. Leon Berard, Professor of Surgery at the University of Lyons; Sir John Bland-Sutton, Bt., President of the Royal College of Surgeons, Vice-Chairman of the British Empire Cancer Campaign; Dr. Ferdinand Blumenthal, Professor of Internal Medicine at the University of Berlin; Dr. William deVries, President of the Netherlands Cancer Institute, Amsterdam, Professor of Pathologic Anatomy at the University of Amsterdam; Dr. Henri Hartmann, Professor of Surgery at the University of Paris; Dr. J. Maisin, Professor at the University of Louvain; Dr. James A. Murray, Director of the Imperial Cancer Research Fund, London; Dr. Claude Regaud, Director of the Pasteur Laboratory of the Radium Institute, Paris; Dr. Albert Reverdin, General Secretary to the Anti-Cancer Center of Geneva.

Among the Americans were: Dr. Howard Canning Taylor, Professor of Clinical Gynecology at Columbia, President; Dr. Francis Carter Wood, Director of the Institute for Cancer Research, Columbia, Vice-President; and Dr. George A. Soper, Managing Director of the American Society for the Control of Cancer; Dr. Robert B. Greenough, member of the Harvard Cancer Commission and Director of the Huntington Memorial Hospital, Boston; Dr. James Ewing, Professor of Pathology, Cornell Medical College, and Director of the Memorial Hospital, New York; Dr. Charles Mayo, Rochester, Minnesota; Dr. Joseph Colt Bloodgood, Associate Professor of Clinical Surgery at Johns Hopkins University; Dr. William H. Welch, Director of the Institute of Hygiene and Public Health, Johns Hopkins University; Dr. Burton J. Lee, Dr. George H. Semken, Dr. Willy Meyer, Dr. Isaac Levin, Dr. John Shelton Horsley of Richmond; Dr. Alson R. Kilgore of San Francisco; Dr. Alexander Primrose of Canada; Miss Maud Slye of Chicago; and Dr. Erwin Smith of Washington.

The program consisted of twenty-seven carefully prepared papers covering practically every phase of the cancer problem. These were read and discussed. Differences of opinion with regard to some of the scientific and theoretical details underlying the present conception of cancer and its causation existed, but when it came to discussing the large and important steps to be taken for the better control of the disease, the meeting was unanimous.

Two resolutions were passed after careful consideration by a committee and discussion before the whole gathering. One was a proposition to form an international federation in order to bring about more meetings like the Mohonk symposium and publish in at least three languages an index and abstracts of all papers on cancer which appeared anywhere in the world. By resolution this proposition was referred to the many national societies against cancer, with a recommendation that the plan, or one similar to it, be adopted, if, upon further study, means could be found for defraying the cost of the work.

The second resolution was the adoption of a statement of the facts and opinions upon which campaigns against cancer should be conducted. (Note: Statement enclosed).

At a dinner to the foreign guests held in New York at the end of the symposium, and attended by about 250 physicians, Sir John Bland-Sutton declared that the meeting would make medical history. He spoke in part as follows:

"We have had a very strenuous week, and I will say in all my experiences in congresses and association meetings I have never been to one in which there was a more complete absence of acrimony and so much work was accomplished. The zeal which led so many investigators, surgeons and physicians to cross the Atlantic and come from all parts of the American Continent is creditable, and the earnestness they displayed in the conference is beyond all praise. In fact, they were so earnest in their discussions that they even continued them on the hotel porches and in the dining-room. This meeting is certain to make medical history."

Dr. Wendell Phillips, President of the American Medical Association, said:

"This meeting has done much to stabilize the knowledge that we have of cancer, and it will clarify the opinions, not only of medical men, but of

the public. In this respect it will accomplish what no other meeting has done before. It is a great thing to preach up the right rather than to preach down the wrong, and those who have been at Mohonk have been preaching up the right. They have not been making any attacks on individuals or institutions. During this week my telephone has been rung time and time again, not only by newspapers, but by doctors, and the question has been asked, why was not a certain group of men up at Lake Mohonk. I had the pleasure of answering them, and fully explaining why these persons were not at Mohonk. The reasons were excellent."

"The great note struck at the Mohonk symposium," declared Dr. Welch, "was the tremendous importance of the cancer question and the appalling problems which it presents. There was never a time when tuberculosis presented problems of such magnitude. The general public and the medical profession must be aroused to the vital importance of efforts to control cancer. However inadequate our knowledge is to-day, it is an obligation of the profession to the general community that every effort be made to control this scourge. The community must be taught that all types of cancer are not certainly and inevitably fatal if they are recognized and properly treated at an early stage. Emphasis was placed upon the importance of research work, the need of further additions to our knowledge on the one hand, and equally, upon the necessity of applying our existing information for the saving of human lives and suffering. There is no disease to which larger additions have been made to our knowledge than cancer, but because this knowledge does not reach the public which we are most anxious to reach, this seems trivial. The many papers and discussions will be published, and make a volume which will be an epochal contribution to our knowledge of cancer."

Note: The statement to which the Symposium agreed is herewith enclosed.

STATEMENT OF THE FACTS AND OPINIONS AGREED TO BY
THE INTERNATIONAL MEETING ON CANCER CONTROL
HELD AT LAKE MOHONK, N. Y., U. S. A.,
SEPTEMBER 20-24, 1926

Although the present state of knowledge of cancer is not sufficient to permit of the formulation of such procedures for the suppression of this malady as have been successfully employed for the control of infectious diseases, there is enough well established fact and sound working opinion concerning the prevention, diagnosis and treatment of cancer to save many lives, if this information is carried properly into effect.

1. The causation of cancer is not completely understood, but it may be accepted that for all practical purposes cancer is not to be looked upon as contagious or infectious.

2. Cancer itself is not hereditary, although a certain predisposition or susceptibility to cancer is apparently transmissible through inheritance. This does not signify that, because one's parent or parents or other members of the family have suffered from cancer, cancer will necessarily appear in other persons of the same or succeeding generation.

3. The control of cancer, so far as this subject can be understood at the present time, depends upon the employment of measures of personal hygiene and certain preventive and curative measures, the success of which depends upon the intelligent co-operation of the patient and physician.

4. Persons who have cancer must apply to competent physicians at a

sufficiently early stage in the disease, in order to have a fair chance of cure. This applies to all forms of cancer. In some forms early treatment affords the only possibility of cure.

5. Cancer in some parts of the body can be discovered in a very early stage, and if these cases are treated properly the prospect for a permanent cure is good.

6. The cure of cancer depends upon discovering the growth before it has done irreparable injury to a vital part of the body and before it has spread to other parts. Therefore, efforts should be made to improve the methods of diagnosis in these various locations and the treatment of the cancers so discovered.

7. The public must be taught the earliest danger signals of cancer which can be recognized by persons without a special knowledge of the subject, and induced to seek competent medical attention when any of these indications are believed to be present.

8. Practitioners of medicine must keep abreast of the latest advances in the knowledge of cancer in order to diagnose as many as possible of the cases of cancer which come to them.

9. Surgeons and radiologists must make constant progress in the refined methods of technic which are necessary for the diagnosis and proper treatment not only of ordinary cases but of the more obscure and difficult ones.

10. There is much that medical men can do in the prevention of cancer, in the detection of early cases, in the referring of patients to institutions and physicians who can make the proper diagnosis and apply proper treatment, when the physicians themselves are unable to accomplish these results. The more efficient the family doctor is, the more ready he is to share responsibility with a specialist.

11. Dentists can help in the control of cancer by informing themselves about the advances in the knowledge of the causes of cancer, especially with relation to the irritations produced by imperfect teeth and improperly fitting dental plates. They can also help by referring cases of cancer which they discover to physicians skilled in the treatment of cancer in this location. It may be doubted whether all dentists fully realize the help which can be obtained from X-ray photographs in revealing not only the state of the teeth but the condition of the bone surrounding them.

12. Medical students should be instructed in cancer by the aid of actual demonstrations of cancer patients, and this to a sufficient extent to give them a good working knowledge of the subject.

13. The most reliable forms of treatment, and, in fact, the only ones thus far justified by experience and observation, depend upon surgery, radium and X-rays.

14. Emphasis should be placed upon the value of the dissemination of the definite, useful and practical knowledge about cancer, and this knowledge should not be confused nor hidden by what is merely theoretical and experimental.

15. Efforts toward the control of cancer should be made in two principal directions: (1) the promotion of research in order to increase the existing knowledge of the subject, and (2) the practical employment of the information which is at hand. Even with our present knowledge many lives could be saved which are sacrificed by unnecessary delay.

The International Congresses

Most of our members who were so fortunate as to visit America in connection with the recent dental meetings have now returned eastward. The first party actually left New York on the return journey on the evening of Friday, August 27, a few hours after the close of the meeting at Philadelphia, and all except one or two who have arranged to take an extended tour in America, are now safely home again, doubtless wiser, and we hope not sadder, men from participation in the greatest concourse of dentists ever held. We hope in future issues of the "Journal" to deal in some detail with the First International Congress on Orthodontics held in New York from August 15 to 21, as well as the Seventh International Dental Congress, held at Philadelphia in the week following, each, in its particular way and sphere, was a remarkable event well worthy of notice. We regret that we shall be unable to say anything about the meeting of the Canadian Dental Association at Halifax which took place in the week beginning August 15. By some unaccountable accident the presence of a large number of representative British dentists in America was not made the occasion for any rapprochement between them and their colleagues of the Dominion of Canada, and we can only trust that the meetings of the Canadian Dental Association were as successful as those others at which Britain was effectually represented. Regarding the latter congresses, let it be said at once that each appeared to be a pronounced success. The attendance at each was large, the entertainment was lavish, and the work done, whether in the reading of papers or in the more mechanical department of clinics, was comprehensive and effective to a degree. It might be said that attendance, entertainment and work were each on an exaggerated scale. Certainly no man could hope to exhaust the possibilities of any one of these without experiencing a nervous breakdown, or attempt to do justice to all three and survive, but numbers, hospitality, and talent, viewed in a comprehensive manner and in proper perspective, produce an impression one would be loth to miss, namely, the conception of the dental profession as an entity that has "found itself"; as a force of civilized society which must exercise a powerful influence for good or ill on the future progress of civilized man. Listening to much that was read in papers and said in discussion; watching at the clinics deft fingers manipulating diminutive but powerful machinery, one felt that only an optimist could believe that the general good was the necessary ultimate result of it all. There mingled in these meetings at New York and Philadelphia dentists from every part of the civilized world and the solidarity of attitude underlying superficial diversity was impressive. But suppose that attitude to be wrong!!! Well, for good or ill the First International Orthodontic Congress and the Seventh International Dental Congress are ended and they have undoubtedly influenced the course of world dentistry to a powerful degree; on reflection we will confess ourselves, with reference to the future, to be "on the side of the angels."—*British Dental Journal*.

Weight of Adults in Relation to Health

During the past few years there has been much said and written about adult weight. The only reason for eating any special diet is to reduce in weight. Every woman is reducing, even if she is now as thin as a slat. The reports of life insurance companies have had much to do with this general fashion of reducing. Insurance companies have found that very heavy persons are not as safe a risk as lighter persons. It has also been reported that people increase in weight with the years, hence it is evidence of youth to be light in weight. A conference of those interested in the subject was held recently in New York with the object of establishing some basic facts in relation to body weight and health.

As a result of the deliberations of this Conference, five committees were appointed to conduct a careful study of the relationship of forced weight reduction to health. Also the following resolutions were unanimously accepted:

"The first point states there are not available to-day any adequate height-weight-age tables for adults based on variations for race, type, heredity, occupation and environment.

"The second one is: No tables of average weights are necessarily healthful. This can be determined only on the basis of scientific medical examination.

"There is need for research to establish:

(a) The basic factors associated with the deposit of fat.

(b) The most satisfactory diets for adults of various ages and types

(c) The optimum weights for health and efficiency of normal adults.

"Fourth: Because of the prevalence of hundreds of inadequate methods of weight reduction and of dangerous frauds and nostrums which take advantage of the present craze for reduction, there is need for public health education in matters in nutrition and body weight.

"The fifth resolution provided for the appointment of five committees of physicians and other scientists to study all phases of weight and health."

In order to secure this required data, the five committees are appointed, with the following purpose and personnel:

1. For the preparation of a statement of basic principles governing human diets—Professor Flora Rose, director of the College of Home Economics, Cornell University, Ithaca, N. Y., chairman; Dr. Lewellys F. Barker, of Johns Hopkins University, Baltimore; and Dr. Solomon Strouse of Chicago.

2. For the consideration of adequate height-weight-age tables for adults—Dr. Thomas D. Wood, director department of physical education Teachers' College, Columbia University, chairman; Dr. Claude H. Lavinder, Senior Surgeon, United States Public Health Service; and Dr. Louis I. Dublin, statistician, Metropolitan Life Insurance Company.

3. For securing proper public health education in this field — Mrs. William Brown Meloney, editor of the *Delineator*, chairman; Dr. Arthur J. Cramp, director Bureau of Investigation, American Medical Association, Chicago; and Dr. E. H. Corwin, of the Public Health Committee, New York Academy of Medicine.

4. Committee for the study of available clinical statistics including hospital records of disease to determine the physical and mental effects of weight reduction—Dr. Joseph C. Bloodgood of Johns Hopkins University, Baltimore, chairman; Dr. Menas S. Gregory, psychiatrist of New York University and of Bellevue Hospital, New York City; Dr. Russell N. Wilder of the Mayo Clinic, Rochester, Minn.

The final resolution commended the Delineator for its interest in arranging this conference and for its co-operation in placing the matter properly before the public. Mrs. William Brown Meloney, editor of the magazine, sought scientific advice and co-operation in an endeavor to reach some sound basis on which to reply to more than 20,000 women who had appealed to her editorial department for advice and suggestions regarding questions of weight.

British Dental Register

COLONIAL AND FOREIGN DENTISTS

The Act of 1921 unfortunately follows the description of the Act of 1878 as regards dentists who have obtained qualifications in the Dominions, the Colonies, and in foreign countries, by describing them as colonial and foreign dentists.* In the Act of 1878 they are referred to as foreign and colonial dentists, but in the Act of 1921 as colonial and foreign. By section 6 (b) of the Act of 1878, any person who is entitled to be registered as a foreign or colonial dentist shall be entitled to be registered under that Act.

Persons not domiciled in the United Kingdom—Where a person who either

- (a) Is not domiciled in the United Kingdom; or
- (b) Has practised for more than ten years elsewhere than in the United Kingdom; or
- (c) In the case of persons practising in the United Kingdom at the time of the passing of this Act for not less than ten years either in the United Kingdom or elsewhere,

shows that he holds some recognised certificate (as hereinafter defined) granted in a British possession, and that he is of good character, such person shall upon payment of the registration fee be entitled, without examination in the United Kingdom, to be registered as a colonial dentist in the dentists' register (Act of 1878, s. 8).

As to meaning of United Kingdom and British possessions, see Introduction *ante* p. 9.

Recognised certificates are defined by s. 10 of the Act of 1878 *post*.

Registration of foreign dentists with recognised certificate.—A foreigner, or any person who has practised for more than ten years elsewhere than in the United Kingdom, may be registered as a foreign dentist, without examination, if he shows that he is of good character, and that he has obtained a recognized certificate granted in a foreign country, which he continues to hold, or of which he has not been deprived for any cause which disqualifies him from being registered (Act of 1878, s. 9).

Apparently a British subject who has a recognised certificate granted in a foreign country and complies with the other requirements of s. 8 is

not entitled to be registered unless he has practised ten years outside the United Kingdom; whereas a foreigner may be registered merely by virtue of holding such a certificate, without necessarily having practised at all.

Recognised certificates of colonial and foreign dentists.—The recognised certificate granted in a British possession or in a foreign country is to be "such certificate, diploma, membership, degree, letters, testimonial, or other title, status, or document, as may be recognised for the time being by the General Council as entitling the holder thereof to practise dentistry or dental surgery in such possession or country, and as furnishing sufficient guarantees of the possession of the requisite knowledge and skill for the practise of dentistry or dental surgery" (Act of 1878, s. 10).

Appeal to Privy Council.—A person who is refused registration as a colonial or foreign dentist may appeal to the Privy Council if the reason for refusal is that the certificate is not recognised. The Privy Council may then, after hearing the General Council, dismiss the appeal or order it to recognise the certificate (Act of 1878, s. 10).

Section 9 of the Act of 1921 which gives a right of appeal against removal from the register or refusal to register to the High Court, provides that "nothing in this section shall apply to a refusal to register a person as a colonial dentist or as a foreign dentist if the reason for the refusal is that the certificate held or obtained by that person is not a recognised certificate within the meaning of section 10 of the principal Act."

Apparently the right of an appeal of a colonial or foreign dentist to the Privy Council is not affected by section 9 of the Act of 1921, if the reason for refusal to register is that the certificate held or obtained by that person is not a recognised certificate within the meaning of section 10 of the Act of 1878.

Abscesses

It is only diseased teeth which become abscessed, never healthy teeth. To cure a tooth which has abscessed, the cause must first be removed. An acute or chronic abscess, a fistulous opening, or a granuloma, is the product of caries. Each responds to the treatment of Ammoniacal Silver Nitrate and Formalin. The technique of application only is changed according to the conditions.

Many operators treat an abscessed tooth once with Ammoniacal Silver Nitrate and Formalin and permanently fill the canals at the same sitting. Should a patient return with pain, Novocain is applied and a No.1 bur is used to relieve the pus which is under pressure at the root end, and the condition clears up promptly.

In the treatment of an abscessed tooth, drainage should be first established. It is not necessary to treat the abscess; it will clear up after the infection in the tooth is removed. The tissue at the root end being destroyed, there is no harm in the solutions going beyond.

Tests have been made, sealing bacteria into canals treated with Ammoniacal Silver Nitrate and Formalin. Reinfection did not occur.

There are times when conditions have gone beyond the point of saving, when this method fails, for the same reason that physicians cannot save every case.

It is often a difficult problem to establish good access to such canals as the mesial root of a lower second molar. Some operators using this method flood the pulp chamber and simply wait for penetration, where an opening cannot be established. They meet with undoubted success in some cases.

Pyorrhea

A pericementoclasia (Pyorrhea) pocket presents two distinct tissues. In this method of treatment, the field is confined only to the infected tooth cementum and dentine.

The infected surface of the cementum usually represents about one-half of the pocket. It is this denuded, infected surface, which is the constant source of infection. The pus-soaked cementum, no longer nourished by the pericementum, becomes deeply infected.

After the extraction of a Pyorrhetic tooth there is always a healthy healing of soft tissues. It cannot be disputed that infected cementum is the tissue which prevents the clearing up of pericementoclasia pockets, except in a few isolated cases of residual infection, as described by Sir Kenneth Goadby.

In the treatment of Pyorrhetic teeth, much attention has been directed to systemic conditions, diet, correct occlusion, contact points, instrumentation, and the use of antiseptics. Antiseptics or disinfectants are not effective except where direct surface contact is established. They do not have the power to reach bacteria which extend deep in the tubuli.

Little or no attention has been given the treatment of the degenerated tooth tissue, except surgical methods. Proof that such methods are ineffective may be established by staining exposed portions of the root with Silver. Where cutting stops, the Silver Solution will stain only the infected tissue black, revealing remaining infected tissue. In advanced stages, when the pulp becomes involved, the most skillful work is useless.

Bone surgeons no longer try to remove infection surgically. Such operations result in infection being carried more deeply into softer tissues. The surgeon flushes a wound, keeps it clean with various solutions, which results in a healthy healing process, but if the bone is involved a cure cannot be effected.

Ammoniacal Silver Nitrate and Formalin, applied to a septic root transforms it into an aseptic root, there is relief from pain, and bacterial nests are eliminated. Germs of all descriptions are destroyed.

To maintain this condition, metallic Silver which is deposited is ideal wherever there has been tissue alteration. It establishes an area in which bacteria cannot exist. What action may occur at a later time, at the point of contact where Silver ceases to penetrate and sound tissue begins, cannot be explained.

There may be difficulty in confining the applications to the affected cementum, but no harm results when the Silver solution comes in contact with soft tissue: it will only cause cauterization, which is desirable for rapid tissue regeneration.

Before applying Ammoniacal Silver Nitrate and Formalin, the usual procedure, locating of pockets, establishing drainage, attention to diet and systemic conditions, must receive their individual attention.

The pocket is flushed well with sterile water and dried. Chloroform is applied in the pocket for removing secretions. Ammoniacal Silver Nitrate is then applied, followed by Formalin. Immediately sterility in all tissue is established wherever the solutions have penetrated. The metallic Silver reduced in the cementum remains a permanent antiseptic. Teeth which are loose become firm and tight.

The principle is sound and emphasizes the value of Ammoniacal Silver Nitrate and Formalin in covering the entire field of tooth sterility.

SOCIETIES

The Odontographic Society of Chicago

The Odontographic Society of Chicago announces a testimonial dinner to be given in honor of Dr. C. Edmund Kells, of New Orleans, La. Dr. Kells is a beloved and outstanding character in dentistry. He is also the first American dentist to apply the Roentgenogram to the practice of dentistry. As a special feature incident to this deserving tribute, Dr. Alfred C. Fones, of Bridgeport, Conn., will present a specially prepared paper on "*The Dental Hygienist*."

The problem of the Dental Hygienist is one of the most important issues confronting the dental profession to-day, and Dr. Fones is undoubtedly the most brilliant thinker and writer on this subject at the present time. Dr. Kells will open the discussion. This important paper and discussion should aid much in the future and necessary solution of this problem.

Every ethical physician and dentist in the United States and Canada is cordially invited to be present. *And so are the ladies.*

The dinner will be informal and the price per plate will be *Three Dollars*.

Dinner and discussion will be held in the Grand Ball Room, Hotel LaSalle, Thursday evening, October twenty-first, nineteen twenty-six, at six o'clock.

Remember the date and help to make this occasion a fitting honor to one of dentistry's most active and lovable characters.

Reservations should be made through the Chairman of the Dinner Committee, P. G. Puterbaugh, 29 East Madison Street, Chicago, Illinois.

DeWITT C. BACON,
President.

HART J. GOSLEE,
Program Committee.

Officers of the New Brunswick Dental Association

Dr. A. J. Cormier, of Moncton, was elected president of the New Brunswick Dental Society. Dr. J. F. Edgecombe, of Saint John, was elected vice-president, and Dr. F. A. Godsoe, secretary-treasurer.

Dr. F. A. Taylor and Dr. W. L. Gillespie, both of Moncton, Dr. A. J. Coughlan and Dr. F. A. Godsoe, both of Saint John, were elected as members to the Council of Dental Surgeons of New Brunswick. The council had its regular session yesterday afternoon and elected Dr. W. P. Broderick, Saint John, president, and Dr. Godsoe, registrar.

HALIFAX CONVENTION

The annual convention of the Canadian Dental Association will be held in Halifax from August 16 to 19. Extensive arrangements for the entertainment of the delegates to the Halifax convention are already being made.

Dental Practitioners' Course at the University of Toronto

Those in attendance include 1 from England, 11 from the United States, and 16 Canadian dentists. The English dentist is Miss Bessie H. Poole, graduate of the Department of Dentistry of the University of Manchester.

The dentists from the United States are Dr. P. W. Allen, Grove City, Penn.; Dr. S. E. Armstrong, New Haven, Conn.; Dr. C. G. Morseheimer, Rochester, N. Y.; Dr. T. C. Blutau, Rochester, N. Y.; Dr. A. M. Delehantry, Lapeer, Mich.; Dr. J. H. Dewey, West Palm Beach, Fla.; Dr. A. Donawa, Washington, D.C.; Dr. M. H. Greene, Penacook, N.H.; Dr. H. G. Mayer, Indianapolis, Ind.; Dr. R. Porter, Oil City, Pa.; Dr. J. D. Reynolds, Marietta, Ga.

The Canadian dentists are Dr. H. C. Arnott, Oshawa; Dr. H. L. Ballantyne, Uxbridge; Dr. F. E. Bell, Iroquois Falls; Dr. C. L. Brady, Simcoe; Dr. A. D. Joselin, Hamilton; Dr. H. G. Learoyd, Sutton West; Dr. E. Norman, Toronto; Dr. S. Pearlman, Toronto; Dr. H. A. Saunders, Port Arthur; Dr. W. J. Schmidt, Kitchener; Dr. P. St. C. Smith, Toronto; Dr. E. P. Smith, London; Dr. E. A. Storey, Sarnia; Dr. G. M. Sutherland, Toronto; Dr. C. A. Tanton, Niagara Falls; Dr. A. J. Thomas, Victoria, B.C.

Dr. Sheldon Wins the Webster Cup

The annual tournament of the Toronto and District Dental Golf Association was held on the Lakeview golf course. Sixty-five players entered the match, all of whom attended the dinner, at which Dr. Duff presided.

Dr. Mac Sheldon won the Dr. A. E. Webster cup, which was awarded to the player with the low gross score in the spring and autumn matches.

Dr. Sheldon turned in a 78 at the Burlington Club and completed the 36-hole medal round with an 81. Dr. Sheldon will keep the cup, having won it for three seasons.

Dr. Alex Elliot donated a trophy to take the place of the cup won by Dr. Sheldon. The terms of the gift are that the player winning it in the majority of matches during the next five years is to have permanent possession of it.

The following officers were elected: Past President, Dr. John H. Duff; President, Dr. G. Victor Morton; Vice-President, Dr. William Macdonald; Secretary-Treasurer, Dr. Frank Knight. The Handicap Committee was re-elected.

The prize list of the Lakeview match was:

Low gross—Dr. Mac Sheldon, 81.

Net scores—Dr. J. Phillips, 94-25—69; Dr. J. K. Scott, 86-16—70; Dr. B. Thompson, 95-24—71.

Low gross, second flight—Dr. R. S. Woollatt, 98.

Net scores, second flight—Dr. A. W. Mackay, 101-28—73; Dr. J. Johnston, 102-28—78; Dr. W. Mitchell, 113-31—82.

Kickers' prize—Dr. R. Macdonald.

Prize for highest score at 12th hole—Dr. Bean and Dr. Hand.

Prize for highest score at 16th hole—Dr. Canning, Dr. Summerfeldt, Dr. Johnston, Dr. Ellis, Dr. Knight, Dr. O'Brien and Dr. Trotter.

Birdies—Dr. Joe Irwin and Dr. Sheldon.

Ontario Dental Health Day

The Hon. Dr. Forbes Godfrey, Minister of Health for the Province of Ontario Department of Health, is arranging for a Dental Health Day to be held on October 20th, 1926.

The following outstanding health and educational associations are co-operating with the department and present indications point to a most successful health educational effort:

The Ontario Medical Association, the Ontario Dental Association, Canadian Dental Hygiene Council, Registered Nurses' Association of Ontario, Red Cross Society (Ontario), the School Health Section of the Ontario Educational Association, the Daughters of the Empire, Ontario Social Hygiene Council, the Women's Institutes, Young Men's Christian Association, Young Women's Christian Association, the Home and School Clubs, the Service Clubs, Ontario Retail Merchants' Association, Ontario Retail Druggists' Association, the Public Press, the Toronto Film Board, the Ontario Radio Stations.

The following activities are being arranged:

Free dental examination and advice for all who seek it.

Public meetings, addresses by physicians, nurses and educationalists.

Suitable dental health articles in newspapers and magazines.

Motion picture films in theatres and dental health plays.

Oral composition essay and art competitions in High, Public, Separate and Private Schools (prizes to be donated by service clubs).

Suitable window displays in drug, grocery and fruit stores.

Special addresses before Service, Women's Institutes, Home and School and Church organizations.

Advance publicity and dental health advertising in newspapers, street cars, and on billboards.

Special dental enclosures in business and other letters sent out by co-operating agencies.

Dental health talks on the radio.

It is not necessary to stress the importance of warning the general public against the disastrous results of dental infection and pointing out how mouth diseases may be prevented. The importance and value of dental health education will be admitted by all thinking people. The Department of Health is therefore making an appeal to all public-spirited bodies and organizations to co-operate in connection with this endeavor to protect the public health by preventing dental diseases.

Officers of the Western Counties Dental Association

Digby, July 16—The fourth annual meeting of the Western Counties Dental Association was held in Weymouth, the meetings taking place at "Bayside Farm." S. B. McGregor, Digby, the president, occupied the chair.

Officers for the ensuing year were elected as follows: President, Dr. A. B. Crowe, Annapolis; vice-president, Dr. H. C. Harding, Yarmouth; secretary-treasurer, Dr. G. V. Turnbull, Digby; executive, Dr. J. Trainor, Yarmouth; Dr. A. F. Hogan, Weymouth; Dr. L. B. Roop, Bear River.

Chicago Dental Society

SIXTY-THIRD ANNUAL MEETING AND CLINIC JANUARY 26, 27, 28, 1927,
THE DRAKE HOTEL

The Chicago Dental Society announces its sixty-third annual meeting and clinic, at the Drake Hotel, Chicago, January 26, 27, 28, 1927. The meeting will again be divided into nine sections as follows:

Section I—Operative Dentistry—Chairman: Robt. E. Blackwell, 104 S. Michigan Ave.; Secretary: W. Ira Williams, 122 S. Michigan Avenue.

Section II—Full Denture Prosthesis—Chairman: G. M. Hambleton, 29 E. Madison St.; Secretary: John M. Besser, 30 N. Michigan Avenue.

Section III—Partial Denture Prosthesis—Chairman: Frank H. Vorhees, 25 E. Washington Street; Secretary: Milo G. Kral, 25 E. Washington Street.

Section IV—Oral Surgery. Anesthesia and Diagnosis—Chairman: G. F. B. Stowell, 25 E. Washington St.; Secretary: Joseph G. Wiedder, 25 E. Washington Street.

Section V—Orthodontia—Chairman: B. O. Sippy, 30 N. Michigan Ave.; Secretary: J. W. Ford, 25 E. Washington Street.

Section VI—Periodontia—Chairman: Edgar D. Coolidge, 25 E. Washington St.; Secretary: G. R. Lundquist, 104 S. Michigan Avenue.

Section VII—Mouth Hygiene, Preventive Dentistry, Public Health and Educational Exhibits—Chairman: Herbert E. Phillips, 5457 S. Ashland Ave.; Vice-Chairman: E. E. Graham, 58 E. Washington St.; Secretary: Harold S. Smith, 1010 Belmont Avenue.

Section VIII—Roentgenology—Chairman: J. H. Prothero, 25 E. Washington St.; Secretary: Frank H. Bernard, 25 E. Washington St.

Section IX—Pathology, Materia Medica and Therapeutics—Chairman: Edward H. Hatton, 31 W. Lake St.; Secretary: J. R. Blayney, 912 Galt Avenue.

The slogan for this meeting is "Educational." All subjects of vital importance to dentistry to-day will be covered by the best authorities in the country. Three half days will be devoted to scientific papers and two half days to clinics and lecture clinics. One evening will be given over to a joint meeting with the medical profession, and on Thursday noon there will be a special feature luncheon. A banquet will be given on Thursday night, in honor of the visiting state dental society and Canadian province dental society presidents. A preliminary program will appear in the January issue of the Chicago Dental Society Bulletin and other dental publications.

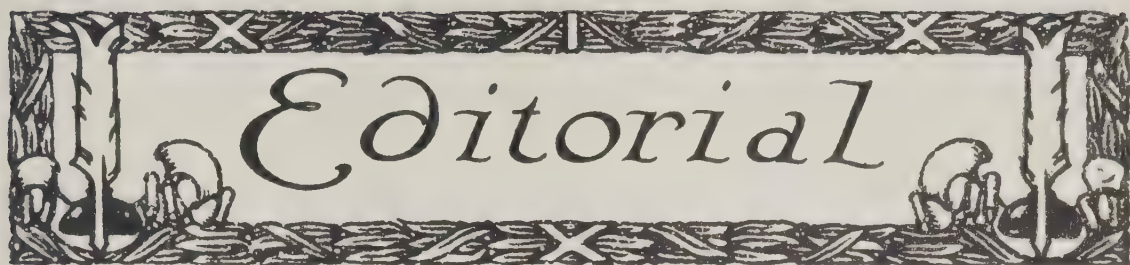
Howard C. Miller has charge of exhibits; Stanley Tylman of the clinics; Harris W. McClain, General Arrangements; Roy M. Wilson, Banquet; Victor H. Fuqua, Reception; Frank W. Booth, Transportation; and Don M. Gallie, Jr., the Ladies' Entertainments.

HUGO G. FISHER, Secretary.

Mr. Gladstone and the Progress of Dentistry

A cheerful note is struck, and one which may comfort us in spite of the feeling of disparagement of dentistry in the past, when we read in Lord Oxford's "Fifty Years of Parliamentary Life" (which is being published in the "Sunday Times"), that during conversation at dinner in April, 1892, Mr. Gladstone was heard, during a lull at dinner, "dwelling with much unction and in his best Parliamentary manner, to Arthur Cecil, the actor, on the immense and gratifying strides taken in his time by the art of dentistry."





Editorial

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Vol. XXXVIII

TORONTO, OCTOBER, 1926

No. 10

The Newer Parts of Canada Will Control Her Destinies

In a former issue we drew attention to the dangers of too large a majority of any political party conducting the country's business. The election is over and the new Premier will have a safe majority only when he satisfies his own party and a portion of the other parties. This is as it should be. A party with a large majority too often passes legislation in the interests of the few and not the masses.

If anyone who is interested in the trend of political affairs in Canada will take the pains to study the reports of the standing of the various provinces as recently published in the press he will find that Quebec and the three central provinces of the West are all on one side of the house. Along with them are the Northern constituencies of Ontario. What does it mean? Ontario, together with support from Quebec, and British Columbia, have had a fiscal policy to suit their purposes for the past forty years. The newer parts of Canada have chafed under these tariffs. They said they were not suited to their requirements. Ontario smiled at their misfortunes. Canada to-day is controlled by its newer parts and will be more effectively controlled as years go on. Northern Quebec, Northern

Ontario, Manitoba, Saskatchewan and Alberta will have like interests and will always have enough members in the Dominion House to let their wants be known. Ontario should have no kick coming when she sees the West in control because she has been in control so long. What has all this to do with dentistry?

Notwithstanding the fact that each province now has control of education, as time goes on there will be national organizations in all kinds of education, and especially in the professions. Health interests cannot be provincial in character; they must be national. More and more as Canada takes its place among the nations of the world more and more will its professions take on a national character. Medicine has its national organization and its national admission to practise. In order to do this there had to be a good deal of give and take among the various provinces. But now with all the difficulties passed the medical student can pass an examination anywhere in Canada which will permit him to practise in any province in Canada. One province has given up its own examinations and accepts only those holding the national degree.

What has happened in national affairs will happen in dentistry if saner councils are not brought to bear than in the past. There is a national dental organization which includes all provinces and a National Council to examine candidates for admission to practise which does not include Quebec and British Columbia. This organization has worked out to the advantage of Ontario ever since its organization. It has also undoubtedly done much for Western Canada. Sometimes Ontario and the other older provinces have not been as sympathetic with the problems of the Western provinces in matters of standards as they might have been. It is impossible for the new provinces of Canada to go hopping along increasing the years of attendance at Dental College as rapidly as in the older provinces where education is cheaper and money has been hoarded for generations. When dentistry becomes a six-year course after pass junior matriculation or four years after a Bachelor's Degree in Eastern Canada it will be a question if the Dominion Dental Council will be serving the best interests of all the people of Canada by at once going beyond the five-year curriculum. As it has occurred in medicine the Universities might well give a six-year course and the Council accept but five years. Such is the practice in many Universities in England and in the United States.

Now for the long national view. No matter what happens in dentistry or medicine the time will come when their national destinies will be controlled by the Northern and Central Western portions. Ontario and Quebec standards of dental education must be encouraged to go ahead, but admissions to practise in these provinces must not be such as will act as a barrier to progress in other parts, or to bring about differences of purpose as has occurred in business and administration. Every intending dental student should be encouraged to take as high an education as he has time and money to obtain as in the law in Ontario. Its matriculation standards are the lowest of any profession, and yet it has on the average the best educational standards of practice because so many graduate in Arts before beginning the study of law.

Notes

Diet instead of Dentistry may be the slogan some day.

Turkish women are being admitted to the practise of dentistry.

Dr. V. C. Mulvey, of Edmonton, has returned from a trip to England.

A dentist in Ingersoll, Ontario, recently lost by theft a quantity of scrap gold.

Mrs. Vogel, of Sand Beach, Yarmouth Co., N. S., was convicted of illegal practice.

Dentistry has lost one of its leading Histologists in the death of J. Howard Mummery.

Chatham, Ontario, school children are to have their teeth examined by a local dentist in October.

A street worker in Edmonton has been fined \$50 for practising dentistry without a license.

Dr. Jas. McPherson, of Edmonton, has returned from a vacation spent on a motor trip over the Windermere and Yoho Valley route.

Dr. R. B. O'Sullivan, O.B.E., Director of Dental Services in the Department of Soldiers' Civil Re-establishment, died suddenly on the street in Ottawa.

A Russian Princess, now in a sanatorium in Berlin, who claims to be the daughter of the Czar, refused to have a dentist examine her teeth for identification.

Dr. John W. Clay, of Calgary, went east for a couple of months to attend the Canadian Dental Association meeting in Halifax and International in Philadelphia.

A house-to-house canvass of all the people in Minneapolis as to where they got their health education material revealed that the largest majority of them received that information from news items in the papers.

The American College of Dentists a year ago appointed a committee to consider establishing a fund to assist worthy young men and women to enter the dental profession or to conduct graduate study for all types of dental specialization, including teaching and research.

The experience of establishing such a circulating fund in the form of war loans in the University of Toronto has been highly satisfactory. Such funds have operated in many Universities to the benefit of many a worthy student. All any young man should ask is an opportunity to borrow money at a reasonable rate of interest.

Dr. L. D. MacLaurin is holidaying at the coast.

Dr. Thurston, a recent graduate of the R.C.D.S., is opening an office in Edmonton.

Dr. M. A. McIntyre of Edmonton has recently returned from a motor trip and vacation at the Coast.

Dr. R. J. C. Lumb, who has recently returned from Florida, has taken over the practice of the late Dr. T. B. Hill of Calgary.

The sympathy of the dentists of Edmonton is extended to Dr. R. S. Decker, who has recently been bereaved through the death of his father.

A dental survey of the school children of Brandon is in progress. It is conducted as an educational project and places no obligation or responsibility on children or parents.

Appreciation

As we go about our own affairs our minds often become dulled to the fact that there is so much good around us in our fellow men. It takes some event out of the ordinary routine to bring this to our notice.

Owing to eye trouble I have been compelled to give up the practice of Dentistry, and I want to take this opportunity to thank my brother Dentists and also the Supply Houses I dealt with, for their consideration and assistance in helping me close up my practice.

CHAS. G. SCOTT,
20 Charles St. East, Toronto.

Is There a Sure Vitality Test?

Belleville, Ont., Sept. 22, 1926.

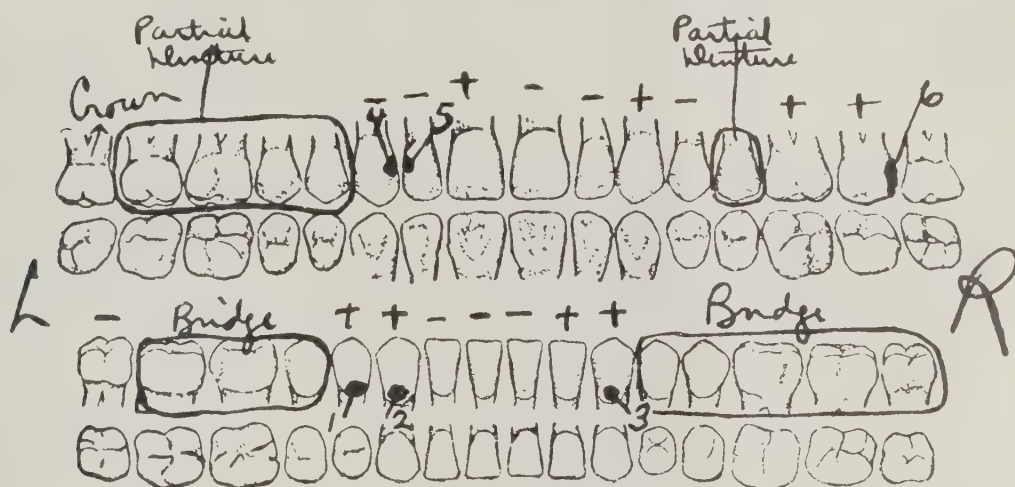
Dr. A. E. Webster,
Toronto, Ont.

Dear Doctor Webster.—Enclosed herewith are dental X-ray films and dental chart for male patient, age 46 years old, and has had during lifetime typhoid fever and influenza. Typhoid occurred 16 years ago and at same time patient had mild attack of pleurisy. Influenza occurred in 1917 and was of very mild type. Patient is healthy and robust. He presented himself for dental examination, which revealed six cavities, recession of gums, teeth worn considerably through mastication, and slight loosening of practically all of the teeth.

Vitality test made by hot gutta percha revealed those marked + to be vital, and those marked — non-vital. Tested by Columbia tester results very inconsistent and not reliable.

Would you please look over these films and let me know what you would consider a practical way to handle such cases.

On account of the excessive wear on the masticating surfaces and the very heavy end to end bite I assumed that the nerves would probably have died from traumatic shock and made thermal test and electric test in an effort to determine the condition, and later resorted to X-ray films in an effort to satisfy myself in the matter. After testing with hot gutta percha and finding a tooth which gave a negative response I drilled into it and discovered it to be vital, which has led me to believe that even the thermal test does not prove satisfactory. Would you advise me also if in your estimation it is possible for a pulp to die in a lower anterior and the forami at the apex become ossified so that the dead contents might remain enclosed in the tooth and not be a detriment to the patient. Would you also advise me if there be any technique whereby the vitality of a tooth may be definitely determined, in cases where there is considerable secondary dentine deposited, other than using a drill.



I have been called upon on different occasions by medical practitioners to determine the condition of the teeth where patients are suffering from an infection, and on several occasions I have been dubious as to how accurate my findings were in cases where there were indications of secondary dentine having been deposited to some extent and consequently I am very keen to learn anything that might assist in this matter, and would be very grateful Doctor Webster, if you can enlighten me along this line.

Hoping that I may be favored with a reply some time at your convenience.

Yours very truly,

HAROLD J. FAHEY.

Dear Doctor.—I would judge from the history and the X-ray pictures that there is a good deal of locking and lateral stress on the worn teeth, which might account for their looseness. The wear may be due to a combination of solution, friction and gritty foods.

Your experience in pulp testing is that of every other dentist of close observation. There is no tool, appliance, or method of pulp testing that can be relied upon in every case, but a combination of them all is fairly reliable

but not certain. Pulp much receded and with low response to thermal and electrical stimulation are usually degenerating pulps and oftentimes infected, and though vital should be removed. In such cases even the dentine will not be sensitive to cutting until the pulp is almost reached. No doubt pulps may die and the root end be so completely covered that infection will not penetrate from the pulp to the general circulation. The X-ray picture is only of value in determining vitality or non-vitality when it shows the root filled with some substance radiopaque. If no root filling appears and there is an area of rarefaction about the apex it is presumptive evidence of infection and a dead pulp, but not certain.

I would not incline to devitalization of receded pulps unless there were some positive evidence of local or general disease. A healthy patient whose teeth are comfortable and the pulps receded is a case for observation and not for immediate action.

A. E. W.

SPECIAL THIS MONTH—New Burs H. P. No. 7—ROUND—INV. CONE—WHEEL—size 3/0, 20c per dozen. Highest prices paid for scraps, etc. WE RECUT your used burs extra sharp at 25c per dozen. Sheun Co., 602 Oakwood Blvd., Chicago, Ill. Established 1906.

DENTAL PRACTICE FOR SALE—Edmonton, Alberta, established 1906. Located in modern block occupied by professional men only. Modern and complete office, including all dental equipment and furniture of surgery, laboratory and reception room. Cash receipts over \$6,800.00 per year with low rental. Price \$2,500.00 inclusive. Retiring from practice. "Ethical" (Box 39), Dominion Dental Journal, 73 Richmond St. W., Toronto 2.

A GRADUATE DENTAL NURSE desires position, preferably Toronto or Hamilton. Have excellent references and have had about 3 months general office routine experience. Box 38, Dominion Dental Journal, 73 Richmond St. W., Toronto, Ont.

Dominion Dental Journal

Vol. XXXVIII

TORONTO, NOVEMBER, 1926

No. 11

ORIGINAL COMMUNICATIONS

The President's Address

GEORGE KERR THOMSON, D.D.S., F.A.C.D.
CANADIAN DENTAL ASSOCIATION AUGUST 16TH TO 19TH, 1926

Mr. Vice-President and Members of the Canadian Dental Association.

In accordance with a time-honored custom I am expected to deliver an address on this occasion, and I assure you have pleasure in doing so, but it will necessarily be as brief as possible for the reason that we have not much time at our disposal for general meetings and there are so many matters of importance to us as a national body that require careful consideration and discussion, that it is necessary to devote as much time as possible to them. You will therefore pardon me if I dispense with the usual platitudes. However, I wish to thank you sincerely for the honor you have done me in electing me President of this organization. I certainly appreciate it, but I also appreciate the responsibility which goes with it, and with that in mind during the last two years I have endeavored to encourage co-operation among the profession, not only nationally but internationally. I have had considerable correspondence with members of the profession throughout Canada and in other countries, particularly with regard to uniformity of Legislation and Education, and it all indicates a desire to co-operate in reaching the ideal, not only in these phases of our work, but also in Preventive and Public Health Dentistry.

Reports of our Dominion Dental Council and the various committees of the Canadian Dental Association will show that much has been accomplished during the past two years, and there is a desire on the part of the profession to make even more progress in the future. In fact, members of our profession, chiefly through the publicity given this matter in our Dental Journals, have plainly intimated that some changes are necessary in the Constitution of the Canadian Dental Association and Dominion Dental Council and some definite action with regard to these matters at this meeting is very desirable.

Since our last meeting a number of our prominent members have passed on and reference is made to them by Dr. Wilmott in the Necrology Report.

I am sure we all regret the serious illness of our Honorary President, S. W. Bradley, but it is gratifying to learn that his recovery is assured.

CANADIAN DENTAL ASSOCIATION

At the last meeting, our Honorary President, Dr. Sydney Bradley, in his presidential address made excellent suggestions which resulted in the adoption of a resolution that the Executive Committee appoint a committee to consider them and report at this meeting. This report we hope to receive. I refer to them now to urge the organization of an Association on the same basis as that of the A. D. A.—an association supported by a per capita contribution from district or provincial societies, which will meet annually and jointly with various district and provincial societies.

At the present time there is a tendency towards affiliation with dental societies of the United States, particularly on the Pacific Coast, and while this is very desirable from several standpoints and may grow on the Atlantic coast, it will probably affect the unity and co-operation which should exist in our own national organization and even result in its disintegration. This is a phase in the revision of our Constitution which should receive some attention.

Dr. Bradley also suggested that an official magazine be published by the Association and that a Dominion Dental Protective Association be organized—at the same meeting it was resolved that the incoming Executive appoint a committee on Revision of the Constitution and By-Laws to report at this meeting. Doubtless the report of this committee will recommend provision for official delegates to international as well as national meetings.

DOMINION DENTAL COUNCIL

At this meeting I will not refer to the Dominion Dental Council—the report of which will be considered this afternoon—except to remind you that it has been a very successful organization and has placed Canada far in advance of other countries so far as Reciprocity of License is concerned, and has had great influence on the educational requirements of our dental schools and the Legislative requirements of the majority of our provinces.

DENTAL EDUCATION AND LEGISLATION

These two subjects are so closely related that it is impossible to discuss one without referring to the other.

During 1925 with a view to obtaining information for a report on Dental Education to be presented at the Conference of Canadian Universities which was held in June of that year in Halifax, I wrote representatives of Provincial Boards, Dental Schools and the Dominion Dental Council as follows:

DENTAL BOARDS

“At the conference of Canadian Universities to be held in Halifax June 2nd to 4th, ‘Uniformity of Dental Education and Legislation’ will be thoroughly discussed. The idea suggested at the Vancouver C. D. A. meeting of co-operation among representatives of the D. D. C., Provincial Dental Boards and Dental Schools in arranging a standard of education which may reasonably be endorsed by legislation of the various Provincial Governments and which would eventually lead to Universal Reciprocity in License to Practise, will doubtless be considered. It would, therefore, be of great interest to the conference to have the opinions of the various boards as to the desirability and feasibility of obtaining such legislation in the

various provinces. Will you kindly inform me if your Board will consider applying for legislation requiring applicants for professional examinations for license to practice, to present a diploma from a College requiring, at least, one Pre-Dental Year in an Academic College and four years professional study, and if so, is it probable the government will enact it?

In Nova Scotia the Board is asking for power, with the approval of the Association and Governor in Council, to make the necessary regulations so that changes may be made at any time without applying to the Legislature. If your Board has not already this power, do you think it desirable and could it be obtained at an early date? Now that so many of the Schools are adopting the curriculum of the one Pre-Dental and four Professional years, it would seem an opportune time for us to secure higher legislative standards throughout Canada. I will appreciate it very much if you will send me information and advice at an early date. With kind regards.

Sincerely,

(Signed) GEORGE KERR THOMSON."

DENTAL SCHOOLS

You are doubtless aware that the date for the conference of Canadian Universities has been changed to June 2nd to 4th, and it will be held in Halifax. Dean Ling, the Secretary of the Conference, has requested that I act as Chairman of the Dental Committee, and I have consented to do so. I understand my duty will be to arrange for the presentation of a report on Dental Education and matters pertaining thereto which may be properly discussed at the conference.

It occurs to me that this will be a most opportune time for the representatives of our Dental Schools to discuss the idea suggested at the Vancouver C. D. A. meeting, viz., that of co-operation with representatives of the D. D. C., the Dental Faculties, and the several Provincial Dental Boards in arranging a standard of education which would reasonably be endorsed by legislation of the various Provincial Governments, and which, would eventually lead to Universal Reciprocity of License to Practise.

There is also the matter of standardizing as nearly as possible our curricula, and whether or not our course shall be designated a Five Year Course or a Four Year Course with a Pre-Professional Year in an Academic College. If you will kindly inform me at the earliest possible moment of the opinion of your Faculty with regard to these matters and also send me suggestions with regard to other matters you think should be discussed at this conference I will appreciate it. If time permits hearing from representatives of the schools to whom I have sent this letter, I will submit proof of the report for your consideration and comments. With kind regards and hoping to see you at the conference in June.

Sincerely,

(Signed) GEORGE KERR THOMSON, Dean.

"Dr. Eudore Dubeau,
308 Sherbrooke St.,
Montreal, P.Q.

May 4, 1926.

My Dear Dr. Dubeau.—

Enclosed herewith are two self-explanatory letters which have been sent to Registrars of Provincial Dental Boards, representatives of the D. D. C. and Deans of Canadian Dental Schools.

I am informed that McGill has decided to require matriculation in arts as an entrance qualification for students who do not wish to practise in Quebec, and that in 1926 and 1927 all students will have to possess two years in arts.

As you are aware, I am much interested in national standardization of legislation and would like to see reciprocity of license to practice universal, at least within the British Empire. Surely a man, who has proved he is qualified to practise in one province of the country should be recognized by other provinces and countries, without further examination. In Canada, the Medical Profession seem to have solved the problem, and I believe they have a practical organization to which license to practise anywhere in Canada can be obtained. If they could arrange matters so that Quebec became part of the organization, why cannot we, in the Dental Profession do so? Now that most of the schools are requiring five and six year courses it would seem an opportune time for us to co-operate in arranging a national standard which would be agreeable to all the provinces. May I hope to hear from you at an early date with regard to the matter?

I hope to meet you in Halifax at the conference of Canadian universities in June. If impossible for you to come who will represent your school? With kindest regards to you and Dr. Nolan.

Yours sincerely,
(Signed) GEORGE KERR THOMSON,
Dean.

Replies from some of the Western Provinces indicated that legislatures were not likely to favor dental legislation, but that at a later date some effort would be made to obtain the desirable amendments suggested.

At present the Dental Schools in Canada have practically the same requirements, and with the exception of Quebec, British Columbia, Saskatchewan, New Brunswick and Prince Edward Island, the requirements for license to practise are also equivalent.

With the adoption of a five year course by nearly all the United States schools, the principal obstacle to enactment of legislation requiring that candidates for examination and registration must be graduates of schools requiring a course of five years, has disappeared, and it is expected that all provinces below that standard will be able to enact legislation uniform with those requiring five years studentship—a resolution with reference to this matter would seem to be in order, and if possible during this convention a conference of representatives of the D. D. C., the schools and various provincial dental examining bodies should be held.

As a result of this report to the Conference a resolution was adopted providing for the representation of Dental Faculties and Colleges in the conference—this provision having been previously omitted.

The Provincial Dental Board of Nova Scotia instead of conducting its own professional examinations as heretofore, has completed arrangements with the examiners of the Dominion Dental Council to conduct examinations of candidates for registration in Nova Scotia. Why should not all our Provincial Boards employ a central examining body such as the D. D. C. to do likewise? The Nova Scotia Dental Board believes that this plan to a great extent prevents the legislators implying that there is any partiality in the present system. It would certainly be a step toward the interchange

of licenses to practise, which we all consider desirable, and if adopted by other countries would eventually result in International reciprocity.

INTERNATIONAL DENTAL CONGRESS AND FEDERATION DENTAIRE INTERNATIONALE

During the last twenty-five years this Canada of ours has been increasing, not only in population, but in importance as a nation, so much so that during and since the Great War she has been recognized as a nation within the British Empire. However, from the standpoint of the profession of Dentistry this has not been the case, and with the object of obtaining this recognition I have had considerable correspondence with our government and the officials of the I. D. C. and F. D. I.

The I. D. C. has been recognized by the American Government to the extent that recently a law was passed authorizing the President of the United States to invite governments of other nations to appoint at least three official delegates to the Congress. Canada was included as one of the nations and I am glad to inform you that our government has appointed official delegates to the Congress which meets in Philadelphia next week.

I wish here to express appreciation of the action of our Federal government in responding to this invitation from the government of the United States. The following appointments have been made—Drs. Wallace Seccombe, Arthur Beauchamp and George Kerr Thomson. Although it was necessary to direct the attention of our government to the international importance of accepting the invitation, yet when it was explained and understood there was no hesitancy in its action, which I am sure will receive your approval.

Our national association has also been recognized to the extent that we have been invited by the International Dental Congress to send five delegates to represent our Canadian Dental Association.

As time did not permit the Executive Council to meet and select these official delegates it will be your duty to do this at this meeting. Letters of appreciation of our interest in the Congress have been received from President Logan and Secretary General King, and it is desirable that as many of us as possible should attend the Congress. It will go far towards cementing the friendly relations already existing between our two countries, etc. The requirements of the I. D. C. with regard to membership of national societies are payments of a fee of \$1.00 per capita. I recommend this association become a member and immediate action towards that object be authorized at this meeting.

Up to the present time Canada has not been officially represented on the F. D. I., an organization which is elected at the close of each Congress for the purposes of acting during the interim of meetings of the Congress. A resolution with regard to these matters should be adopted at this meeting. In this connection, provision should be made in our Constitution and By-laws for the appointment or election of representatives to International meetings, as well as other national meetings.

PREVENTIVE AND PUBLIC HEALTH DENTISTRY

Of all branches of our profession these probably are the most important, but until recent years have received the least consideration. In the Faculty of Dentistry of Dalhousie University they are very intimately associated in the School and Health Centre, and both the Dental Faculty of

Dalhousie and Toronto Universities have for some years been teaching Preventive Dentistry as a separate subject. In 1918 there was established here a Pre-school Age Dental Clinic, the records of which prove conclusively that instead of children entering school 90% imperfect from a dental standpoint it is possible by pre-natal instruction to the parents and prophylactic treatment for the children to have them enter school almost 100% perfect, not only from a dental standpoint but from that of general health. This clinic is now conducted in our University Health Centre and is also used for teaching purposes.

It is my belief and I have advocated it for several years before this association and elsewhere, that clinics of this kind should be established wherever possible throughout Canada, in fact, throughout the world, and that an International propaganda should be immediately instituted. This might well be made one of the important objectives of our Association.

In this connection, we are pleased to note a considerable degree of co-operation on the part of our Federal and Provincial departments of Health, Red Cross, Massachusetts-Halifax Health Commission and the C. O. P. A. and C. D. H. C.

Addresses and reports of representatives of the two latter organizations will be presented officially and at publication should be of much interest to us, as well as to the public. It is believed that with further co-operation of the governments and Red Cross Societies our C. D. H. C. will prove a most valuable factor in solving the public health problem.

WOMEN IN DENTISTRY

In all our Dental Schools, women are accepted as students on the same terms as men, and it is suggested that the field of Preventive and Public Health Dentistry is peculiarly theirs, and members of our Association should encourage them to study dentistry with the object of providing services in this connection. There is also a great field for Preventive services by the Dental Hygienist, and it is very much desired that less discussion and more co-operation and action in providing both women dentists and hygienists for public health services be encouraged. As the Office Secretary and Dental Nurse have their sphere of usefulness, so have the women dentists and the dental hygienists, but that of the latter two is of much greater importance.

I sincerely thank the other officers and various committees for their unselfish co-operation in arranging our program, and all those who are contributing to it in any way. The Dental Journals in Great Britain, the United States and Canada, as well as the newspapers, have been exceptionally generous in the space devoted to our interests, and should be officially informed of our appreciation.

A Consideration of Cast Gold Inlays and Restorations

WILLIAM DWIGHT TRACY, D.D.S., F.A.C.D.

Read before the Canadian Dental Association at Halifax, N.S., Aug. 17th, 1926.

Mr. President, Ladies and Gentlemen.

This subject has been before the dental profession for so many years that it may be considered somewhat hackneyed, but I notice, however, that it is still a very vital topic of discussion at practically every dental convention.

Before proceeding with the subject matter of this paper, I cannot refrain from dwelling a few moments upon the importance of the gold casting process as applied to modern dentistry.

Think what this process has meant to dentistry and to humanity. Consider not only how it has been modified, but how it has actually revolutionized much of our procedure in both the operative and prosthetic fields of our work.

This procedure must ever be associated with the name of Wm. H. Taggart, of Chicago, through whose inventive genius the method of using the disappearing wax model in casting gold under pressure was made applicable and useful in dentistry.

It was only after years of ceaseless toil and hundreds of scientific experiments that Taggart finally introduced his method of casting gold inlays, and demonstrated his process before the New York Odontological Society in January, 1907.

Whatever the circumstances following the introduction of this process may have been, I am impressed with the fact that the profession will always be under obligation to Dr. Taggart.

The title of this paper, Cast Gold Inlays and Restorations, should perhaps be explained. The term inlay is universally used and well understood, but the term, restoration, as used here, applies to any casting for an individual tooth which involves the replacement of one or more cusps in order to reproduce the anatomical contour and function of the tooth.

The application of gold casting to the filling and restoration of defective teeth is more widely useful than any other one method at our disposal, its most serious limitation being based upon the unsightliness of gold when used in those parts of the oral cavity which exposes it to view.

As a means of protecting, preserving and safe-guarding the welfare and integrity of defective teeth, gold inlays and restorations have no superior.

As a means of reproducing contour, contact, and that minute anatomical detail which is so closely related to restored function, they have in my opinion no equal.

My advocacy of this almost universal use of gold inlays in all compound cavities in the bicuspid and molars you will please not regard as an attack upon the use of amalgam, for it is not so intended.

I grant to no one a greater appreciation of the real merits and true virtues of amalgam as a filling material, and perhaps no one deplores more than I the abuses to which that material is constantly submitted.

I quite understand that all patients, because of economic conditions, can not have gold used in taking care of their dental needs, but when there is no economic bar to its use, I have the conviction that the gold inlay in the types of cavities mentioned above, and when properly made and inserted, is the best type of reparative dentistry we have to offer.

Gold casting was introduced to us almost twenty years ago, but eight years prior to that we were making the so-called two-piece gold inlay by the indirect method, using an indifferent amalgam die or model of the cavity, on which the inner shell of 30 gauge, 24 Karat gold was swaged. The contour of lost structure was then built in with hard wax, a Melottes metal die was made, and an inner shell of 22 karat gold was shaped up and the seam was sweated together with 22 karat solder, thus completing the inlay. In trimming, a little feather of the pure gold was left available for burnishing and finishing down to the enamel margins.

I have the pleasure of seeing occasionally inlays of this type that have been in service for twenty-five years and that are still intact.

Now if inlays made by this crude method have been useful, how much more safe and secure must we feel with the perfected inlay made according to present day methods.

In 1907 those operators who may be spoken of as ultra conservative made a great hue and cry about wanton sacrifice of tooth structure in the formation of inlay cavities and prognosticated an epidemic of pulp devitalization following the insertion of gold inlays.

These same men also decried the Black method of extension for prevention, which I feel they but poorly understood, and were ever ready to cast a wet blanket over any new thought or innovation in dental practice. Even though a young recruit in the ranks of practice at that time, I felt like quoting to them that safe and sane old saying, "Be not the first to cast the old aside, nor yet the last by whom the new is tried."

One reason why the epidemic of devitalized pulps did not ensue as prophesied (and it did not) was that cavities prepared to receive inlays were more carefully and thoroughly cleaned out than were the cavities in which large gold foil and amalgam fillings were to be placed.

Furthermore, all careful operators realized the necessity of protecting the pulpal wall of dentine in cavities of deep-seated caries, with a suitable lining of cement, thus safeguarding the pulp from thermal irritation as far as possible.

Dr. Taggart stressed the point of having the gold inlay closely adapted to the dentinal walls throughout its entire surface, as being essential to perfect retention and resistance to stress, but from the earliest months of my experience in the making of inlays, I was impelled by sense of caution to hollow out the under side of all large or fairly large inlays so as to keep the gold away from the pulpal wall at the most critical point. This we did at first with small sharp spool excavators and then later with the Roach Suction wax carver, and it is routine with me to-day, as you will see illustrated by the models which I hope to show you.

About 1915 some of our excellent practitioners became so enthusiastic about the use of gold inlays and silicate cements that they publicly stated

that they had **thrown** away their gold pluggers, and as I look back on thirty years of intensive practice, I realize that most all innovations have been subjected to abuse, which in some instances has brought a beneficent and meritorious method or material into disrepute.

It is true that the introduction of gold casting has steadily decreased the number of good gold foil operators, and this is to be regretted, but my observations lead me to believe that we are now witnessing a renaissance of gold foil operations.

The silicate cement bubble in my opinion has burst and disappointment and disaster have followed in the wake of its indiscriminate use. As a result many members of the profession are awake to the fact that it is better practice to take more time, submit the patient to a little more discomfort, and insert gold foil in anterior teeth where not exposed to view and gold inlays in posterior teeth, than it is to insert silicate fillings which take less time but which fall so far short of our ideal as to permanence.

The question arises as to the scope of the gold inlay—where it should or should not be used. I would answer that there can be no hard and fast rule concerning this matter, but where conditions are favorable cast gold inlays can be advantageously used from the distal surface of the cuspids to and including the third molars.

I have in my practice many patients with practically all proximal surfaces of bicuspid and molars filled with gold inlays, which have given perfect service and in whose mouths no amalgam has yet been used.

I confess I would feel happier, however, if I could say to you that I had the same number of patients in whose bicuspid and molars no cavities of decay had ever developed, but that is another story—a story which brother Hyatt has told you.

Now as to methods of making gold inlays and restorations—shall we use the direct or the so-called indirect procedure or the semi-indirect plan? That of course is optional, but having faithfully used all available means, I have for many years been committed to the indirect method as producing, by and large, the best results in my hands.

I have no bone to pick with direct method inlay workers, and I take off my hat to the expert who obtains satisfactory results in that way, but there are many operators using that method who could do better work and more of it, with less consumption of their own time, and their patient's time by using the indirect method.

A recital of the technical details of the steps taken at the chair in making an indirect inlay is too primary to repeat here, but I can without impropriety ask you if you do not think it is easier and better to take a compound impression and a wax bite of the cavity described below than it would be to struggle with time and circumstance and a nervous patient in an effort to obtain an accurate wax core directly in the cavity?

Take a disto-occlusal cavity on a lower second molar where cervical caries has carried the lower margin under the gum and almost down to the alveola crest. There we have lack of access, lack of light, the annoyance of a bleeding gum, the flood of saliva, the inconvenience of a restless tongue and the cheek muscles to contend with. But in spite of these factors, an impression and bite, provided the cavity has been properly prepared, can be taken in five minutes time—the cavity comfortably sealed and the patient promptly dismissed. Can anyone obtain the necessary wax

core properly carved and adapted to the cavity margins so as to insure a satisfactory fit in an equally short time.

Granting that the impression was accurately taken, the amalgam die affords us as true a replica of the prepared tooth as modern dental science is able to produce. With this die mounted in a plaster model with occluding teeth we have reproduced conditions as shown in the mouth.

The skilled technician with plenty of time, a wealth of light, and having none of the disconcerting factors mentioned in the hypothetical case to contend with, while holding the die conveniently in his hand, can now carve up a wax core for a gold inlay, the perfection of which is limited only by his individual ability and intelligence in handling wax.

When cast, the inlay is cleansed, swaged upon the die and surface dressing is done, after which all final finishing and polishing is completed.

Where the laboratory steps in this technique are carefully carried out it is possible to obtain inlays that fit their cavities admirably and serve as a means of gaining what the profession chooses to term a permanent result. The word permanent, however, being used in the relative sense and in contradistinction to an operation avowedly temporary.

Restorations are made in the same way meeting an infinite variety of conditions in molars and bicuspid.

I will not tire you in an attempt to enumerate the wide range of use to which cast gold restorations may be put, but by way of illustration will mention only two examples:

In the case of lower molars, which have lost the vitality of their pulps after having been involved with caries on the mesial distal and occlusal surfaces, I have found great satisfaction in constructing restorations which include a substantial projection or finger of gold extending toward the gingiva both buccally and lingually.

Such castings not only restore proximal contacts and occlusal function, but safeguard teeth of this class from mesio-distal fracture, because of the staple-like embrace exerted by the buccal and lingual extensions of gold mentioned.

Patients in middle or later life frequently present with the entire buccal cusp and external plate of enamel missing from a superior bicuspid, but with vitality of the pulp unimpaired. In some of these cases a porcelain jacket crown is indicated, but in many of them, by properly shaping the inner cusp and remaining portions of the tooth, a cast gold restoration can be constructed with a little box-shaped depression on the buccal aspect, into which a baked porcelain inlay is cemented. This type of restoration gives splendid satisfaction with practically no display of gold and still maintains the integrity of the dental pulp.

I shall hope to show in my little table clinic that indirect inlays and restorations can be made to fit natural teeth perforations so accurately that they meet all practical requirements.

Please note that I refrain from saying that they fit perfectly.

There are many who herald their operative work as being perfect, but personally I find 100% perfection in dental operations just a little beyond reach. I never intend, however, to stop reaching for it!

Pyorrhoea and the General Practitioner

D. P. MOWRY, D.D.S., L.D.S., MONTREAL, CANADA

Delivered before the Canadian Dental Association, Halifax, August 18, 1926.

In the "Dominion Dental Journal" of March, 1922, there was reported a lecture by Dr. A. W. Thornton, in which he stated that the general practitioner in dentistry should do his own pyorrhoea work.

This would indeed be "Utopian!"—and, if carried out conscientiously by every dentist would be the greatest single progressive step in modern dentistry.

At the present time, however, the demand for operative work is so imperative that, were he ever so willing, the dentist would be unable to find time to attend to the detail required for the treatment of pyorrhoea.

He must learn, however, if he has the incentive of service, to see the mouths of his patients through the eyes of the periodontist. His operative procedures will then be guided by the vision of what is best for the entire mouth in preference to the narrower view of how to fill a cavity in an individual tooth. Remember that only in unfilled teeth having unbroken and healthy gingival margins do you find 100% of germ-free pulps.

With rare exceptions in daily practice, the pyorrhoea case has previously presented the condition known as "gingivitis," and this is where the general practitioner is directly responsible. To quote that great man of science Eugene S. Talbot:—

"A few years hence the profession will regard a dentist whose patients have pus oozing from the gums as a prehistoric relic, and the patient as an individual whose filth provokes the contempt of his fellows."

To get as fundamental a concept of this question as possible, I shall use as a text (if I may be permitted to call it such) a very concise definition of disease, as suggested by Dr. Oertel, Professor of Pathology at McGill University, Montreal:

"Disease is only an exaggeration of structural and functional adaptation to environmental influence."

My attempt, this morning, gentlemen, is to lay before you some fundamental principles for practical application, which will be based on a dissection of this definition.

The very briefest survey of the structure must include development under two aspects:

I. *Phylogeny*—or the development of the species from an undifferentiated unicellular animal to the highly specialized creature now inhabiting the earth.

II. *Ontogeny*—or the development of the individual in one generation from the single cell to the adult form.

Phylogeny begins some five hundred million to a billion years ago, when unicellular life first appeared in the waters that covered most of the earth. An unicellular organism (for example, the amoeba) has no mouth; it

simply indents itself or pushes out narrow bulges or projections known as pseudopodia, which surround the desired object, and a simple rupture of the original outer membrane injects the morsel and the wall closes together again.

From this simple cell to the highly complex human of to-day, we can trace the development of the teeth. Beginning as an elaboration of the scales of the skin of the fish which has invaded the mouth cavity to assist in nibbling, sucking, grinding, etc., through use they slowly become a mass of pointed scales covering the edges and roof of the mouth. Slowly through the centuries of prehistoric time, as the rest of the body changes, the teeth respond to the law of form in response to function, and they become ranged in opposing rows. As the fish becomes amphibian, and the amphibian reptile, we note that the bones of the head begin to arrange themselves, and the teeth, confined mostly to the edges of the jaws, are now embedded in distinct sockets. The primitive pointed tooth develops one, and then two, extra points or cusps on the sides of the original, and as the reptile begins to develop mammalian habits, we discover the formation of the lingual part of the crown by an ingrowth of the basal cinquulum. With the advance of the vertebrates in evolution, the great diversity of environment, such as habits, method of obtaining food, mating, and feeding the young; numerous changes continue in shape, location and number of teeth—especially the formation of the relatively flat low-cusped molar.

One outstanding feature of phylogeny I wish to emphasize: In the primates (those mammalian types just lower than man) the long cuspids, the anterior inclination of the incisors, and the dental arch, being in the shape of a long parallelogram, limit the movement of the jaws. In man, the cuspids are reduced to a level with the other teeth, the incisors are more nearly vertical, and the dental arch is rounder. From a prehensile biting or cutting function, the teeth of man to-day have approached very nearly the pestle-mortar type of relationship in function. This is well demonstrated in the Monson spherical theory, with which you are all doubtless well acquainted. The important bearing of this pestle-mortar relationship will be shown when we discuss function and traumatic occlusion.

Phylogenically the jaws develop from a simple opening in the epidermis to the massive bones we find in the higher apes. From then on to man, however, a degeneracy occurs, which is well shown in a study of the head from the anthropoid apes up to man. We note a progressive shortening and degeneracy of the face, nose and jaws, for the benefit of the higher structure—the brain. To quote from Talbot:

“The change of the shortening of the nose and face is nicely illustrated where the domestic pig is not required to root for a living. The arrest of the nose, face and jaws is not unlike that of the human. The law of use and disuse is finely illustrated in these two extremes.”
So much for the relation of structure from the aspect of phylogeny.

NOW WHAT OF AUTOGENY?

Most scientists are convinced that the growth of the individual in one generation from the single cell to the adult form, especially in utero, is a recapitulation of the History of the Race. That is not, however, the point that is most important at the present moment. Rather do I wish to detail somewhat certain conclusions with regard to histological structure that are arrived at by a study of Ontogeny.

As you all know, the individual begins as a fertilized ovum, which is a single cell. This cell shows a rapid and spectacular growth, dividing first into two equal cells, then into four, and these four into eight, etc., until there is a solid mass of cells (morula). This soon hollows out, making a sphere whose outer border is a row of cells (blastula). At one point a dipping in or invagination takes place and continues until there is first a projection and then a complete inner lining of cells, with a slight space between it and the outer layer (gastrula). In the same region that the invagination took place, cells begin to bud off from both layers, and we now have the formation of a third—or intermediate—layer, of apparently similar cells.

These are the three fundamental layers known as ectoderm or outer, entoderm or inner, and mesoderm or middle.

From these three layers of cells develop all the tissues and organs of the body. Because of cells from each of these layers having a similar method of grouping together, if we know from what layer a certain tissue is derived, we can very closely judge its function.

Briefly, the ectoderm and entoderm go to form tissues in which there is a preponderance of cell over inter-cellular substance, and the cells are in close proximity one to another. That is, they form covering or protective tissues. The mesoderm for the most part goes to form tissues having a considerable amount of intercellular substance, and therefore we find such inside the body protected by ectodermal or entodermal tissues.

What does this teach us about the teeth and gums?

Let us see:

We left the developing embryo at the three-layer stage. All of these cells go on multiplying and *differentiating*. As early as the middle of the second foetal month there will be found, following the line of the future alveolar ridge, a slight heaping-up of the surface epithelium (epithelial ridge), while immediately beneath this proliferation of cells there appears a dipping-in of the deep or infant epithelial layer (early called the dental groove) in the direction of the future alveolar walls. This is known as the epithelial tooth band, and is continuous from one distal end of the future jaw to the other. After this tooth band has assumed certain proportions there appears on its lingual surface a thin membranous plate, tooth lamina, which should be considered as an inflection from the tooth band. We find then between the seventh and eighth week, the maxillary regions giving place to two bow-shaped bands (one for each jaw), each of which is preparing to throw out from its secondary lamina ten little buds, tooth buds, which soon develop into the germs for the twenty deciduous teeth: when these buds make their appearance they are simple, rounded bodies, placed somewhat closely together, but they do not long retain this simple form. The first change which takes place is one in which they appear to lengthen-out into slender cords, the extremities of which soon begin to extend laterally, and a pear-shaped enlargement of the epithelial cells appears, which, by invagination, later assumes a bell-shaped outline, which phenomenon is rapidly increased by a proliferation of connective tissue cells forcing into the concavity. This bell-shaped proliferation of cells given off directly from the tooth lamina to which it continues for a time attached, together with specialised connective tissue cells crowding into its concavity, constitute the tooth-germs, the former being the enamel organ and the

latter the dentin organ. It will therefore be seen that the enamel is dependent on the oral epithelium for its development (ectoderm), while the dentin springs from an entirely different source—the connective tissue of the jaw (mesoderm). Thus it happens that upon the eruption of the tooth through the gum, what appears as *two* separate tissues (enamel and gum) is in reality but *one*, developmentally speaking, both being ectodermal. Nature's plan of ectoderm to protect mesoderm is here apparent, and it is our manifest duty to restore and maintain this continuity of structure whenever, and from whatever cause, it is ruptured.

So much for Autogeny.

Now, what of the dental and peridental structure, as we find it from the histological viewpoint?

As the tooth erupts, through the gum, the remnants of the ameloblasts are drawn tightly over the enamel as an extremely thin, tough layer known as Naysmith's membrane. This is soon lost through wear on the exposed part of the crown, but in the base of the gingival crevice these cells persist as a covering to the alveolodental or peridental membrane, and constitute a minute bridge between gum and cementum at the cervical line.

A cross-section through tooth gum and alveolus viewed under the microscope will reveal the tooth in its alveolar socket. Exposed to the lumen of the beginning of the alimentary tract (for such the mouth is, strictly speaking) is the enamel, the hardest and most resistant structure in the body. The edge of this enamel at its margin root-ward is covered by the cementum, a layer of modified bone which encases the whole of the tooth except, of course, the crown. We note that it is thickest as it approaches the apex, which is formed entirely of this substance. Encircling the enamel at the cervix is the stratified squamous epithelium of the gum in the shape of a relatively thick collar drawn tightly against the enamel by the underlying dental ligament, and forming what is known as the gingival crevice. This stratified squamous epithelium or gum is super-imposed on a dense and tough connective tissue with three sets of fibres, and a rich blood supply, and is firmly attached to the pericementum of the alveolus. Between the periosteum of the alveolus and the cementum of the tooth is the alveolodental or peridental membrane. It offers nourishment to the bone on one side, and to the cementum of tooth on the other. It is connective tissue of moderate density, and is rich in its nerve and blood supply. This membrane contributes chiefly to the articulation between the tooth-root and the alveolar socket. There is no marked mobility, but there is a general elasticity provided by the specially distributed fibres, to provide against the severe concussions and strains incident to mastication. This membrane is the medium by which all sensations originating on the tooth surface are taken up and conveyed to the brain, making it the organ of the sense of touch to the tooth.

To a considerable degree this last fact of structure is the instrument whereby the reaction to lack of, or abuse of, function is conveyed to neighboring tissues. This will be brought out more fully under the subject of "function."

Let us summarize at this point the structure we are examining this morning:

Twenty-eight or thirty-two teeth arranged in opposing form of a rounded arch, the lower row being set on a movable frame, the mandible,

with the lower cusps forming a smaller arch than the upper, and in relation to it as a closely, fitting pestle to a mortar. In function, the mandibular joint is an arthroidial-diasthrosis (freely movable) and in bringing pressure between the occluding teeth presents a lever of the third class. These teeth, though having non-elastic crowns, are supported and anchored in the bony sockets of the jaws, by a shock-absorbing membrane. The tissues surrounding the roots of these teeth are protected by the stratified squamous epithelium of the gum.

This is what Nature gives us, and constitutes our ideal, our model, our blue-print; (call it what you will)—towards which we should endeavor to restore all cases which present themselves for treatment.

Let us not forget our text:

"Disease is only an exaggeration of structural and functional adaptation to environmental influence."

Now, what is the function of this structure we have been considering?

Is it not designed for seizing, and crushing, an omnivorous diet? Does not the histological picture of the peridental membrane demonstrate beyond question the necessity for function if we are to maintain the tone of the tissue?

The stratified squamous epithelium of the gum (practically synonymous in cell structure, blood and nerve supply, with the palm of the hand and the sole of the foot)—does it not cry out: "I am designed for rough work, wear and tear, and must be used if I am to remain healthy, and in harmony with contiguous tissues?"

What of the arrangement of the pericemental fibres, of the individual teeth, in conjunction with their anatomy? Is it not here evident that the anterior teeth are designed for powerful cutting and tearing, but not for lateral stress, and what food do we civilized people of to-day provide for that wonderful "mill" which Nature has given us in our molar teeth?

The consideration of the question of environment opens up a vast field for investigation and research. From such simple phenomena as the reaction of tissue to heat or cold, it carries us through the whole field of biological phenomena to the infinite real, of relativity, and the fourth dimension!

The environment of the tissues we are considering to-day may be viewed from two aspects:

I. Those factors acting from without or upon the surface of the gum, gingival crevice and tooth; and,

II. Those affecting the tissue from within through the medium of the blood stream.

Normally, the surface of these tissues is covered by a mucilagenous film, and bathed by alkaline saliva. In such a media the normal bacteria of the mouth will thrive. I say "normal" bacteria, because the mouth is fundamentally the beginning of the alimentary tract, and the function of this oral flora is to digest debris remaining about the teeth, so that it can be washed away.

Quoting from Dr. Schneider:

"In cases where the bacterial food digestion of the mouth is interfered with, or hindered, as in Pyorrhoea, then the use of tobacco, through clove chewing, use of alcohol, etc., etc., the food particles

become caseinated about the necks of the teeth, and may undergo partial putrefaction instead of digestion, resulting not only in unsightly teeth, but also in bad breath, unless the food particles are removed through rinsing, or by means of the tooth-brush."

If this debris be not removed, it has the effect of instituting a complex pathological and progressive symbiosis of the organisms of the mouth. Such a process must always be stopped if the tissues are to be restored to physiological function.

The environment aspect from within brings up the whole question of stimulation to maintain circulation and tissue tone, which I shall emphasize in describing the use of the tooth brush. It also brings to our attention the question of the quality of the blood as affected by the general condition of the body, such as general disease, unnatural and deficient diet, auto-intoxication, etc.

Now when a case presents itself in which the tissue picture is altered—what has happened? It is very unscientific to say that the resistance of the tissue has broken down. That is why I object to the term periodontoclasia, i.e., the breaking down of the tissues surrounding the tooth. You might think we were working with wood or stone or some other inanimate material.

Gentlemen, you are manipulating and treating organic tissue, living tissue: Periodontitis if you will, but not Periodontoclasia.

Now, when a case presents itself which is not normal, all that has happened is that the living tissue has adjusted itself to a new environment either from within or without, or both, and it is "up-to-you" and "up-to-me" to restore the environment that is conducive to the harmonious or physiological life of the tissue. That is why we must understand the structure, and the function, and the histological picture, if we are to appreciate the importance of the environment.

Let us examine some of the environmental influences which alter the physiological adaptation of these tissues:

1. Irregular teeth:
 - (a) Traumatic occlusion;
 - (b) Gingival trauma from mastication;
 - (c) Lack of occlusion;
 - (d) Abnormal lip, cheek and tongue pressure.
2. Soft foods and lack of natural foods;
3. Use of stimulants or narcotics, or neglect, bringing about abnormal growth of organisms of the mouth;
4. Dental restorations;
5. Any condition of the body in which the blood has become altered: Pregnancy, Diabetes, Acidosis, Infection, etc.;
6. Abnormal saliva due to intestinal stasis;
7. Habits; mouth breathing, tooth picks, gum chewing, etc.

I am not going to spend much time in talking to you about the details of treatment. Men far more famous than I have given you Text Books and Magazine Articles innumerable on the pathology of "Pyorrhoea Alveolaris," "Peridontoclasia," "Interstitial Gingivitis," etc. What is here emphasized is the *physiology* of the structure you are dealing with.

What is most essential is that at least 90% of all your patients have one or more environmental abnormalities, sufficient to bring about an *exaggeration* of structural and function adaptation. (Disease).

If you look at each mouth with the eyes of a periodontist, and restore the environment in so far as each case permits, you will do much towards not only curing and preventing Pyorrhoea but you will discover, as the months and years go by, that the recurrence of caries is greatly reduced, and that the mouth is progressively healthier.

The treatment of Pyorrhoea (whether it be Periodontitis Simplex, or Pyorrhoea Alveolaris) consists in restoring the environment and bringing the structure as near to the ideal as possible.

Briefly, case management should include the following:

1. Complete Radiograph;
2. Adjustment of the occlusion in function;
3. Restorations to restore lost tooth structure:
 - (a) Surface outlines;
 - (b) Contact point;
 - (c) Gingival margin; continuity of outline.
4. Thorough prophylaxis of crowns of teeth;
5. Tooth brush instruction; .
6. Treat pyorrhoeal pockets—normal depth 2mm.;
7. Periodical prophylaxis by the *General Practitioner*;
8. Refer stubborn, extensive, or Trench mouth cases to specialist;
9. Refer patient to physician for general examination.

It is my opinion that vaccines for the treatment of Pyorrhoea are of no value, except possibly in rare cases where an antogenous vaccine might stimulate the anti-toxin action of the blood.

Upon the persistence of the patient in the daily dental hygiene, and upon the periodical prophylaxis by the dentist, depend the cure and prevention of Pyorrhoea. In no other way under existing civilized conditions can you achieve success. Nature demands that the integrity of the ectodermian tissues be maintained.

Gentlemen, you are busy from day-to-day treating a structure that has degenerated, so far as its racial and recent history are concerned. This structure, in addition, has been progressively deprived in respect to the function it has been called upon to perform, and in quality of nourishment it has been given through the blood supply.

The biological possibilities, however, in response to physiological stimulation are entirely intact.

Under existing conditions you must train your patient to use artificial means to supplement the deficiencies acquired by civilization.

This appliance is none other than the tooth-brush—honored by such names as Charters, Stillman, and Hartzell, as the prime essential to dental health. WHY? Because, properly used, it cleanses the tooth surface of bacterial masses, and stops the progressive symbiosis. Because it provides the stimulation essential to cell growth and normal circulation.

(Described use of tooth brush).

In conclusion, gentlemen, you see everywhere throughout Nature and the great law of the *relation of Form to Function*.

Get the mouths of your patients into harmony with this law, and you will be doing much more than treating disease; you will be bringing about those conditions which make disease impossible.

And last, but not least, the drudgery and hum-drum view of dentistry often caused by lack of vision, by a limited and narrow operative procedure, will be transmuted into the thrill of worth-while accomplishment; you will feel that you have a real part in the great cosmos, and that the "happy isles" are not so far away after all!

"He searched the whole world over
To find a four-leaved clover:—
Which all the while had grown beside the door! !"

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DENTAL SOCIETIES

Report of Canadian Dental Hygiene Council

GIVEN BY DR. W. C. TROTTER

Delivered before the Canadian Dental Association, Halifax, August 18, 1926.

As chairman of the Executive Committee of the Canadian Dental Hygiene Council, I can assure you that the Council appreciates the privilege of giving you a short account of the Council and its activities since the last meeting of your Association in Vancouver, when you were good enough to recognize our status as more or less of a clearing house for Oral Hygiene work throughout the Dominion.

At that time in 1924 the C. D. H. C. was very much in its infancy and scarcely organized. I think Dr. Grant, the secretary, explained to you the reasons for the formation of the Council by that it was felt that the best interests of oral hygiene work throughout the Dominion would be furthered by the organization of a Council such as this which embraces in its membership laymen as well as dentists and medical men, thus affording a larger field of support and at the same time lessening the possibilities of our profession being accused of carrying on Oral Hygiene propaganda work to further our own selfish ends. It was with this in mind that we secured the co-operation of such splendid men as Gen. the Hon. S. C. Mewburn, K.C., as president of the Council, and Mr. E. E. Reid, B.A., manager of the London Life Insurance Co., as its vice-president. Dr. Geo. G. Nasmith, C.M.G., of the Canadian Red Cross Association, is a member of the Executive Committee. Other members of the Executive are Dr. R. H. Wilson, of Vancouver; Dr. G. N. Stults, of Halifax; Dr. J. F. Morrison, of Winnipeg; Dr. Eudore Dubeau, of Montreal; Dr. Ferguson, of Saskatoon; Dr. Jewet, of Ottawa; and the Toronto members, Drs. Grant, Seccombe, Broughton, Reade, Ellis, and myself. Dr. H. E. Eaton was a very valued member of the executive right from the first, and his sudden death last month is going to be a very serious loss to the Council. Dr. A. E. Grant has been secretary of the Council from its inception and did a great deal of arduous work in connection with organization and getting the charter. I am sorry to say that he now feels that he can no longer spare the time from his other duties and wishes to be relieved of his work as secretary. The Executive Committee meets about once a month except during the summer, but a small sub-committee consisting of Drs. Grant, Ellis, Reade, Harry S. Thomson and myself meet more frequently and attend to all the financial and managerial work of the Council, reporting back to the full executive.

In Ontario there is the most complete co-operation between the Oral Hygiene Committee of the Ontario Dental Association, Dr. Conboy, the Director of Dental Service for the Ontario Government, and the Canadian Dental Hygiene Council. The Council only carries on work in Ontario at the request or with the consent of these two bodies. The appointment of

Dr. Conboy as Director of Dental Services or Provincial Dental Health Officer has been a most outstanding success, and has greatly advanced the oral hygiene work of the province, and put it on a definitely organized basis. If the dentists of the other provinces will study the results of this appointment by the Provincial government of Ontario, I am sure they will bring pressure to bear upon their own governments to follow in the footsteps of Ontario in this regard. This Council is ready to assist any other province in every way possible to bring about such an appointment by the persistent education of public opinion in this direction. Every Provincial Dental Association, as well as our Canadian Dental Association, has the privilege of appointing representatives on the Council, and we are ready at all times to assist the Provincial Dental Associations or their oral hygiene committees to the limit of our ability. I am anxious that every representative or his proxy from all the provinces will meet with members of our executive present here in Halifax at some opportune time during this meeting so that we may be able to get a general exchange of ideas in regard to the best means of carrying on oral hygiene work throughout the Dominion.

We can assist in the Dental Health Educational work of any province in many different ways such as supplying charts, lantern slides and moving pictures, or material suitable for dental health talks to service clubs, women's organizations, school children or public audiences. In some cases we can loan the services of our Field Secretary to organize and carry on a dental health campaign.

The Council will do all in its power to help to make the Ontario Dental Health Day on Wednesday, October 26th next, a success. It is being held under the auspices of the Ontario Department of Health and will be supported by the Ontario Department of Education, the Ontario Medical Association, the Ontario Dental Association, the Ontario Press Association, the Ontario Red Cross Association, and the various service clubs and welfare organizations. If the day is the success we all think it will be, no doubt other provinces will attempt a similar day, and this Council will gladly help them in any way possible. Of course, the fact that Ontario has such an efficient Dental Health Officer in the person of Dr. Conboy, and that he has undertaken to organize and manage the Dental Health Day arrangements right from his office, where the clerical work can be done by his staff, is a decided advance in such an undertaking.

During the past two years the Council has done a great deal of work from Coast to Coast educating the dentists as to the nature of our work and its opportunities for usefulness. The interest with which this information has been received and the co-operation given has been most encouraging and has more than justified the formation of the Council. Much time has been spent educating the Cabinet Ministers at Ottawa as to the important influence the work that we are doing will have upon the general health conditions of the Dominion, and we have urged upon them our right to participate to some extent in Federal money grants made to health organizations, similar to ours, such as the Social Hygiene Council and the Mental Hygiene Council. Though we have not yet succeeded in getting any financial recognition from the government at Ottawa, we feel we have paved the way for a later effort when the political situation becomes more stable.

With the continued co-operation of dentists and their influential friends throughout the country, we are bound to succeed ultimately. At present our only source of revenue has been donations received from the dental societies

and individual dentists. The Ontario Dental Association has been particularly good in this respect. Assistance of this kind has enabled the Council to occasionally send our Field Secretary, Dr. Harry S. Thomson, through the provinces to assist the various dental associations and their oral hygiene committees in their public dental health educational campaign. The services of Dr. Thomson are very generously loaned to us by the Canadian Oral Prophylactic Association, and if we could receive sufficient money from other sources we would be able to loan his services to other provinces most of the time.

At present we are endeavoring to arrange for the establishment of some Dominion-wide plan whereby the teeth of immigrants may be examined and if possible looked after before they reach their destinations. With the assistance and co-operation of various dental associations and organizations, such as the Canadian Red Cross Society, we soon hope for success in this undertaking.

This Council looks forward to the time when each province will have a Provincial Dental Health Officer who will co-operate with the oral hygiene committee of its Provincial Dental Association in promoting dental health education throughout the province. As soon as a few of the provinces are organized in this way, it may be possible to persuade the Dominion government to appoint a Dominion Dental Health Officer, whose duty it will be to look after the dental health of inmates of Dominion Institutions and to co-operate with the various Provincial officers and committees in the work in their respective provinces.

I find that this Association has asked Dr. Harry S. Thomson, the Field Secretary of the C. D. H. C., to give a brief account of his activities in connection with the Council, and to explain to you in what way we can assist the various provinces in their oral hygiene work, so I have confined my remarks to a more or less official statement of our organization and its aims.

Dr. A. C. Downing, Director of Education in the State of New York, will be tendered a banquet at the Commodore Hotel, December 9th, 1926.





PROFESSOR W. H. GILMOUR, M.D.S., LL.D.

Director of Dental Education, University of Liverpool, England.
Professor Gilmour delivered the inaugural address before the
Academy of Dentistry, Toronto, for the session of 1926-27.

Editorial

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Vol. XXXVIII

TORONTO, NOVEMBER, 1926

No. 11

Dental Assistants Form Association

A Dental Assistants' Association of Montreal has been formed. The organizing meeting was held by courtesy in the Dental Faculty of the Universite de Montreal, St. Hubert Street.

After some deliberation the following officers were elected: President, Mde. A. Guay; 1st Vice-President, Miss E. Cuttle; 2nd Vice-President, Mde. D. Carabeh; General Secretaries, Misses A. R. Smith and E. Noton; Treasurer, Miss M. Maclean; Chairman, Miss R. U. Ratner.

The association, which appears to be the first of its kind in Canada, although there is a thriving association of this nature in the United States for many years past, has been greatly encouraged in its work by the favorable aid rendered by Dr. Dubeau, Dean of the French Dental Faculty, and by Dr. Thornton of the McGill Dental Faculty.

The next meeting of the association will take place in the Dental Faculty of the Universite de Montreal on Thursday, October 21, to which all dental assistants of Montreal are cordially invited to attend.

We copy the above from the Montreal "Star." "Appears to be the first of its kind in Canada." If the members of the Montreal Association will look up Canadian dental literature they will see that such an Association has been in existence in Toronto for five years.

The school children of Amsterdam are cared for dentally by a system somewhat different than in other places. One dentist can take care of 6 to 7 thousand children. First teeth get attention as soon as the child enters school. Such teeth as are severely decayed or would cause decay of the proximal surfaces of permanent teeth are removed. No pulp treatments are made. All small cavities are filled. Prophylactic treatments and home care taught. This plan has been in vogue for six years and shows teeth of children of twelve years as being 95 per cent. perfect. The Cambridge system shows about 85 per cent. perfect dentures as the children leave the schools. These figures were compiled by visiting dentists from foreign countries who made the examinations.

This fall the plan of having a good practical clinician visit Edmonton, Calgary, Lethbridge, and Medicine Hat was again carried out, when the summer convention attendance is compared with that of the circuit clinic plan, the latter is found to be just double the former. The best in dentistry is placed where every practitioner, desirous of his own advancement, can avail himself of the opportunity.

This year the Alberta men were wonderfully fortunate in having Dr. O. De Forest Davis of Minneapolis conduct the two-day class in each city. His work consisted in demonstrating methods of partial denture construction and various types of clasps; vital bridge abutments of all types and a wealth of inlay castings. One interesting demonstration consisted in a complete mouth reconstruction, with all appliances placed on suitable models of a closed bite case, a little full mouth impression work, and some jacket crown technic was added. The whole might be said to demonstrate exceptionally high class work in the hands of one of the best all-round dental practitioners, and the satisfactory part being that much could be put to use in the practices of those attending. One pleasing part of Dr. Davis' work was his willingness to operate on patients, which he did wherever he was requested.

As part of the entertainment by the Alberta Board the Calgary men took the Doctor to Banff and the Yoho mountain drive; whilst the entire Association presented him with an engraved silver tray as a souvenir of his visit to Western Canada.

As a comment it may be added that any slight murmur of dissatisfaction attending the request for the annual association fee can be eliminated by spending surplus Board money in this manner. The loser is the one who stays away. Following the formation of the Western Canada Dental Association it is not too much to look forward to the three prairie provinces combining to send clinicians regularly over a prearranged route, at lessened cost to each and great benefit to all.

DENTIST IS SENT TO JAIL FOR NOT PRODUCING BOOKS

The imprisonment of Dr. Mederic Masson for one year in the common jail, or until such time as he produces the books of the Masson Dental Co., Ltd., Montreal, has been ordered by Mr. Justice Coderre. The judgment marks the culmination of a long-drawn-out legal battle between the Dental College and Dr. Masson, involving the latter's right to do business under commercial lines in alleged contravention of the code of professional ethics.

Notes

The Dental Health Day in Ontario was a great success.

The old form of initiation has been discontinued at the Faculty of Dentistry, Toronto.

Dr. L. W. Staples, Ingersoll, Ontario, lost the second finger of his left hand while out hunting.

Dr. W. A. Armstrong, Ottawa, addressed the Gyro Club on the subject of teeth on October 21st, 1926.

A committee of Dalhousie Dental Society has been struck to arrange for a dental banquet and dance.

A new dental clinic has been opened on the second floor of the Western Hospital, Toronto, for the care of ward patients.

Two scholarships will be awarded to the Faculty of Dentistry by the scholarship committee of the University of Toronto.

It is the intention of the Ontario Board of Health to take over the promotion of oral hygiene in the schools of the province.

The Dental Board of Saskatchewan is arranging to have dental lectures and demonstrations in every city of the province.

Dr. Joseph Caldwell, Belleville, Ontario, has celebrated his 50th year of dental practice. He began the study of dentistry five years before the Dental College was formed.

1927 SESSION OF THE AMERICAN DENTAL ASSOCIATION

This is to officially announce that the Sixty-Ninth Session of the American Dental Association will be held in Detroit, Michigan, October 24, 25, 26, 27, 28, 1927.

HENRY L. BANZHAF, President.

OTTO U. KING, General Secretary.

Dr. Alan L. Clark, together with his wife and child, were killed in an automobile accident in Detroit on October 20, 1926.

Dr. Clark, who was practising dentistry in Detroit, was a graduate of the University of Toronto, and had also received his earlier education in Toronto. Some two years ago he married Miss Lillian Maud Matson, the daughter of the late Frank and Mary Matson, of Toronto, and shortly after the wedding the young couple had moved to Detroit. Dr. Clark is survived by his parents and two brothers, Dr. Harry G. Clark and Dr. Donald C. Clark, both of whom are practicing physicians in Detroit and graduates of the University of Toronto. The bodies of all three victims were brought to Toronto for burial.

BOOK REVIEWS

We are in receipt of a copy of four lectures on general anaesthetics delivered by Professor Yandell Henderson, Ph.D., Yale University, Prof. Leonard Hill and Prof. D. Noel Paton, under the auspices of the Dental Board of the United Kingdom. These lectures were delivered at several centres in the Kingdom to further post-graduate study. These lectures discuss nitrous oxide and oxygen, in the minutest detail. The book is published by the Dental Board, 44 Halam St., London, England, and can be had for five shillings.

The American Text Book of Operative Dentistry in Contributions by Eminent Authors

*Edited by Marcus L. Ward, D.D.Sc. Published by Lea and Febiger,
Philadelphia and New York, 1926.*

The appearance of another edition of this work marks a new era in dentistry. For the first time a book on operative dentistry concerns itself with the examination of patients for the purpose of making a diagnosis. Formerly such text books concerned themselves with descriptions of methods of treatment and especially with pictures of instruments and appliances. The editor says the chief reason for the new edition was the assurance that infections in teeth may be the cause of infections in remote places in the body. It is pretty late in the day to find it out when there is so much evidence to show that it has been known for centuries. The sections on Examination, Diagnosis, Oral Hygiene and Periclasia are real additions to dental literature. Bunting's section on Prevention is one of the most interesting and instructive in the book. It points the way to a seemingly reasonable method of preventing dental caries. It is within the reach of everyone. We regret to see the illustrations of cavity preparation repeated in this edition. The bevel of the cavo surface angles as shown in the illustrations are altogether too excessive and would give a student a very erroneous idea of this part of cavity preparation. The author should have checked up the work of the artist. Another just criticism of the illustrations is the frequent acute angles shown in the outline. The illustrations of the cavities in which gold foil is being packed are much better than those showing cavity forms. Why should the cylinder method of filling teeth with non-cohesive gold be illustrated in a modern text book. That's history now. The gold pluggers illustrated are not suitable for the small cavities now filled with gold foil. They are somebody's set. The section on Amalgam is one of the clearest expositions of the subject now extant. The section on inlays is good except for a few old illustrations. There might have been more illustrations of cavity forms for abutments of bridges, especially those forms showing the use of pins. The section on porcelain is good.

The arrangement of the various sections and chapters is excellent. It follows good pedagogical methods. It teaches how to insert and handle all the filling materials, and then discusses the physical properties and theories

associated with them. It is such a relief to find a text book which does not wear the student's patience to the breaking point on what the author deems to call fundamentals before it reaches the subject to be taught. Time enough to take up theories after the student has tried to do something himself.

The section on filling root canals is withdrawn from its natural position. The author who prepares the root canal should fill it. Root canal filling materials might better have been classified as antiseptic and mechanical rather than antiseptics, cements, gutta percha metals and amalgam. All classes of filling materials have headings under which they are discussed except amalgam. It is discussed under metals without a heading. This subject might well have had more extensive discussion. We presume there should be a general discussion of the subject of extracting teeth in a work on operative dentistry, but why should it be the last section in the book. It should follow the anatomy and not give the student the idea that the extraction of teeth should be the last operation. We would respectfully suggest that the Editor continue the good work and be bold enough to arrange the chapters in the sequence of general dental practise. The reason we give so extended a review is because of the merits of the work. On the whole it is a most excellent book and should be in the hands of every dental student.

Correspondence

Dr. A. E. Webster,
Toronto, Ontario.

103½ Colborne Street,
Brantford, Ont., Oct. 12, 1926.

Dear Dr. Webster.—

I noticed in your last issue of the Dominion Dental Journal a letter from Dr. G. M. McKay, regarding some complications which he experienced from Hypodermic injections for Tic Douloureux.

I had a similar experience with three different cases one afternoon with Local Anaesthetic. I can describe the after effects, word for word, with Dr. McKay. This sloughing did not occur with block anaesthesia, as I have checked up on several cases on which I used the same anaesthetic the same afternoon.

An explanation would be gratefully appreciated by

Yours very truly,

C. T. MOYLE, D.D.S.

Editor—Will some reader send us an explanation of such complications?

SPECIAL THIS MONTH—New Burs H. P. No. 7—ROUND—INV. CONE—WHEEL—size 3/0, 20c per dozen. Highest prices paid for scraps, etc. WE RECUT your used burs extra sharp at 25c per dozen. Sheun Co., 602 Oakwood Blvd., Chicago, Ill. Established 1906.

YOUNG DENTIST—Two years in general practice, desires association with practitioner in Ontario city or town. Box 40, Dominion Dental Journal, 73 Richmond W., Toronto.

SELECTION

The Amalgam Filling

BY FRANK D. LAMB, L.D.S.ENG., WIGAN.

Read before the combined meeting of the Glasgow Odontological Society, the Odonto-Chirurgical Society of Scotland, and the Dundee Dental Club on February 13th, 1926.

A fellow dental student, in his innocence, wished that he had taken the medical course instead of the dental, as there seemed so little scope in dentistry. Most men find more than sufficient scope in dental science and practice, i.e., it is difficult to march with technical progress and to keep abreast of dental literature. Much that appears of academic interest only is, perforce, passed by for lack of time to read. There are, however, certain cardinal features of dental practice, the importance of which is evident to every practitioner daily. Such is the subject before us.

The most provocative expression concerning the amalgam filling in recent months is the issue of a report by the Research Committee of the New York State Dental Society under the title "The Failures with Amalgam as Commonly Used"; the reporter being Dr. Ottolengui, chairman of the Committee.

In the words of the chairman "the Committee decided to investigate what dentists are doing with amalgam, rather than what they might do." Dr. Ottolengui explained that it was to be considered as an "investigation and not a scientific research as he understood the term."

We are all familiar with the impressive formula on the cover of the *Dental Cosmos*: "Observe—Compare—Reflect—Record." The Committee observed and compared, but appears to have reflected little before recording. Some hundreds of extracted teeth containing amalgam fillings were collected, examined and reported on, specially noting the violate or inviolate condition of the margins on each surface, marking as failures those fillings which showed recurrent caries. The failures were in the first series collected:—

Buccal surfaces	42 per cent.
Occlusal surfaces	14 "
Approximal surfaces	61 "

And in the second series:—

Buccal surfaces	69 per cent.
Occlusal surfaces	17 "
Approximal surfaces	80 "

The significant fact emerging from these statistics is that the highest percentage of failure occurs on the approximal surfaces, and the lowest on the occlusal surfaces, and this is the more important because it is true of all examinations made. The report then proceeds to say that another matter which was investigated was as to whether or not the filling had been polished. Different members of the Committee found that approximal

surfaces were rarely polished; that occlusal surfaces which had been polished resisted recurrent caries. Dr. Ottolengui says: "Because I found thirty-five compound fillings polished on the occlusal surface and part way on the approximal, but not polished down to the gingival margins, the very place where the greatest portion of recurrence of decay is to be found, it seems a safe deduction to make that the polishing of an amalgam filling is an essential factor in success with this material."

I take it that polishing means giving the material a smooth bright surface and not the trimming away of excess. Was there ever such simplicity manifested by a body of investigators within the compass of its own specialty? In the first place the fillings examined were extracted teeth—foundlings, whose parentage was unknown. There was no knowledge of the operator and no guarantee of the thoroughness of the cavity preparation. The Committee did not take into account the extension or lack of extension of the inter-proximal margins to safe positions, nor by a single sentence indicate its consciousness of the surpassingly greater difficulty of perfect marginal preparation in approximal cavities compared with those on buccal or occlusal surfaces.

My contention is that the chief cause of interproximal recurrent failure is the nucleus of decalcified enamel so frequently remaining when the original filling is placed, not forgetting also the greater incidence of dental caries on mesial and distal surfaces. This was corroborated by a recent case. Approximal and contiguous cavities in upper bicuspid teeth were prepared under local anaesthesia for a school girl home for the holiday, but owing to lack of time they were temporarily filled with baseplate gutta percha. A few months later the fillings were removed, and to my surprise I found the cavity margins required extending as there was decalcified enamel at the margins. The report also compares the higher percentage of failures on the buccal surface with those on the occlusal, and again attributes the disadvantage to difficulty or neglect of polishing, ignoring the fact that buccal cavities occur in mouths where caries is of the diffuse or malignant type having no real definite bounds, and which also secondarily involve the greater difficulty of performing proper condensation. The report further exacts the following dogma "that in proportion as the filling approaches, reaches or dips below the gingival margin, so is failure with amalgam invited," but surely this does not apply to amalgam alone?

The impression of this portion of the report (if the statements of Dr. Ottolengui are accepted as justified) is unfavorable to the use of amalgam; but Dr. Bodecker, who made an histological examination of some specimens, says that those teeth "represent failures due to faulty workmanship, and it would be very unfair to the dental profession to regard such as typical examples of our work." The Committee produced much evidence of overhanging material at cervical margins. I cannot but feel that the investigation would have been more valuable if a second line of procedure had been adopted, and an examination made of the work of competent and conscientious alloy workers, of fillings *in situ* where the whole details of environment and susceptibility to caries could have been noted. The investigation is followed by an imaginary account of the method adopted by those whose cheap ways have produced the volume of failures recorded, the failure again being attributed to gingival excess and lack of approximal polishing. The report concludes with an over-elaborate technique for the filling of two approximal cavities, saying that by this technique the best

results may be obtained with amalgam. (But four or five visits are required for filling two cavities.) Saying "It cannot be called a cheap method. Indeed, it would be cheaper to insert gold inlays. There is just as much work entailed, and the time saved when inserting gold inlays should more than offset the actual cost of the gold."

If the Rolls-Royce were the only automobile how many of us would be motorists? Some worthy alternative to Dr. Ottolengui's method, capable of giving satisfaction and within the compass of a public of moderate means, is required and in use. There is a familiar petition: "Make no more giants, Lord, but elevate the race," and in that spirit we will turn to the constructive side of this paper; paying tribute to Mr. G. Crandall and his work, "Standardizing of the Amalgam Filling," from which most of what follows that is of worth is derived. It is quite unnecessary to go into the ordinary detail of cavity preparation, assuming this to be a conscientious following of standard practice, with regard to extending margins to naturally cleansed areas, the complete removal of carious dentine, the preparing of retention form, and the necessity of some form of anaesthesia in dealing with interstitial cavities; but there are certain considerations to be mentioned. Considerable use must be made of the dental engine in cutting out fissures and extending margins to desired areas. Probably we deny ourselves the advantage of the rubber dam too often; for, the time required for its application is recovered with compound interest in the manifold gains attending its use—control of the tongue, retraction of cheeks, elimination of disagreeable soaked absorbents, perfect exposure of cervical margins disclosing incipient enamel caries, and the protection given to inter-dental papillae with absence of obscuring hemorrhage.

Maybe the importance of the dam is greater in relation to the cervical margin, in this connection, than in root canal treatment; small flat rubber ligatures stretched over a tooth and allowed to pass beneath the cervical gum tissue will act as a protection against severer injury from instruments, matrices and polishing strips, and in some measure serve as a substitute for the sheet rubber. There are two special points to be emphasized. First, avoidance of gross fracture of some part of the remaining tooth crown. Second, minute fractures of the margin of the filling.

A good alloy in bulk, thoroughly condensed, is more than strong enough to withstand any natural crushing stress, and the best fillings are, generally speaking, made by the generous removal of all weak portions of the crown involved. Especially is this so in the case of pulpless molars and bicuspid with compound mesio-distal cavities. It is a most frequent experience to find in such cases, subsequent to filling, that either the buccal or lingual wall fractures obliquely, involving the root beneath the cervical pericementum. This accident should be anticipated by reducing the buccal or lingual cusps and bevelling the shortened walls outwards, endeavoring to bind the whole by means of the filling anchored in the pulp chamber. Enamel cutting forceps are useful in breaking away unsupported enamel. The varying planes in the occlusal surface of a tooth, especially in the case of the first upper and lower bicuspid, which frequently have long cusps, make it inadvisable to carry the margin far towards the apex of the cusp if it can be avoided; and it is good practice, if it is necessary for cosmetic reasons to conserve tissue, to support an occlusal angle of strong but unsupported enamel with cement. The enamel margins should be carefully planed—preferably with a hand instrument—to an angle only just exceeding a right

angle. It is not difficult to make an amalgam filling stay in. The common problem is how to secure inviolate margins, for the peculiar weakness of amalgam is manifest in the margins as lack of edge strength; and there it may be countered only by attention to every stage of the operation.

The contact point is the other important consideration, and this introduces the question of matrices. I seldom separate teeth that are normally distant from each other. Whatever matrix is used, be it a metal or celluloid ring or steel strip in a matrix holder, it should be tried in position and the contact point marked, then removed, contoured and thinned almost to nothing at the contact point. A celluloid ring may be contoured with heated contouring pliers, or by grinding with a carborundum stone, which thins the band and at the same time produces a contour. A steel band matrix, 2/1,000 in. in thickness, which cannot be contoured with contouring pliers can be contoured by grinding. The steel bulges desirably, and the untouched cervical and occlusal borders leave a matrix strong enough to resist the indirect condensing strain. The Harrison nickel ferrule matrices or thin copper ferrules are also required for special cases: copper being specially useful where abnormally large contours are required. Matrices should always extend occlusally beyond the highest point of the filling, otherwise condensing at this vital point must be imperfect, for amalgam must be confined under pressure. This cannot be too strongly insisted upon. Overbuilding with subsequent carving down is the only way to attain the desired end. Matrices for a distal cavity in a canine should be applied as for a bicuspid, or if more accessible from buccal surface a window may be cut in the matrix through which the filling is packed. Matrix holders are not made deep enough for a considerable proportion of cases. Probably the correct fitting of the matrix is as exacting and difficult as the cavity preparation itself, and one should not pass to the next stage until the most exact requirements have been fulfilled. Time spent on this work is more than saved in avoiding the consequences of neglect, some of which in the investing tissues may never be made good by repair.

The next question is the selection of an alloy; and it should be recognized that the manufacture of such sensitive combinations is the work of a skilled metallurgist, involving acute discrimination and the use of special appliances and instruments of precision. Crandall says that if the alloy is deficient in silver as much as 0.1 per cent. a shrinkage of 5 microns may occur about the margins of large cavities. This would obviously destroy the utility of the restoration regardless of the quality of the technique employed, because the organisms of caries are from 2/5 to 4/5 of a micron in size. The correct annealing is of great importance, and one should not place confidence in any product that is not guaranteed to be faithfully tested before marketing.

The researches of G. V. Black, C. M. McCauley, W. G. Crandall and others indicate that a non-zinc alloy is to be preferred. Zinc in an alloy is said to be responsible for changes in bulk distributed over a number of years. It diminishes crushing strength, and increases galvanic action and shock, bad fitting and corrosion. The investigation of the physical properties of alloys by Messrs. Sonder & Peters, Physicists of the National Bureau of Standards of the U. S. Government, did not controvert the above statements. A rapid setting alloy is essential for proper marginal treatment, for occlusal carving and burnishing. All instruments required should be selected and placed to hand as there is no time to be lost after the amalgam

has been mixed. It is presumed that almost every operator invariably weighs the proportion of alloy to mercury, for to quote Crandall: "The correct ratio of alloy to mercury is an essential factor in the final result of an amalgam operation, as an excess of mercury will cause a shrinking alloy to shrink more, and an expanding alloy to expand excessively, and a very closely balanced alloy to shrink first and then expand. Obviously this is because there is sufficient mercury to produce the maximum action possible from the metals: if the mercury is limited it can only produce action on the amount of alloy dissolved and then must cease." Two mercury bottles should be used; one with a much finer delivery than the other for the exact balancing of the scales. My own practice is to transfer the weighed alloy and mercury to a glass tube and shake vigorously for about twenty seconds, producing a loose combination of the constituents without any loss of mercury, such as is due to overvigorous pestling, and assuring a uniform setting. It is of little benefit to weigh the mercury carefully and then spill it carelessly from the mortar. It should be understood that prolonged grinding is most inadvisable. The granules should be coated with an envelope of mercury, and not dissolved or only partially so. Laboratory tests unmistakably justify this rule. The greatest strength in the amalgam is secured by bringing the undissolved particles of alloy as closely together as possible. If mercury has to be expressed it is well done by twisting in muslin or in special pliers. A very generous excess of material should be prepared: the reason for this being obvious later. It is important to exclude all moisture or blood from the condensing amalgam. H. C. Pickerill, quoting Miller, says that silver-tin amalgams are not only not disinfectant, but that if mixed in the usual way they are capable of carrying infection into a cavity, but that that point can be overcome by mixing the amalgam with alcohol or methylated spirit and allowing to evaporate. Pickerill states emphatically "no material that is not aseptic, or cannot be sterilised should be used for filling teeth."

Crandall, however, is opposed to the use of any such "washing solutions," as the strength of the material is thereby considerably reduced as by invasion of blood or glandular secretions. The question of suitable condensers or pluggers is important. Very little thought is required to show how utterly unsuitable are the round-ended or globular types of plastic instruments, which have been the requirement in the student's instrument list at almost every dental school in the United Kingdom for at least a quarter of a century. A few months ago the instrument lists of eight or nine schools were studied, and it was found that only one school, and that the Glasgow (Incorporated) Dental Hospital and School, shows any enlightenment in this matter. In the first place pluggers should be flat faced to drive the material onward. The globular end merely drives into it, and the effect is very much the same as pushing one's finger into a lump of dough. A large proportion of cavities are in the main roughly elliptical in sections with sharp angles interstitially, and the thorough condensation in these marginal angles is of great importance. How can this be done with a round instrument? Various sizes of pluggers are required in accord with the size of cavity and progress of the filling.

The Montagu Hopson double-ended elliptical flat-faced pluggers are the most useful instruments for moderate cavities. They are preferable to the Caulk special amalgam pluggers, which must be used from the front of the mouth instead of the side.

(The following description of the actual manipulation of the prepared amalgam is quoted verbatim from Crandall).

In placing the amalgam, it is often advisable to begin with a small piece that is not as dry as the remainder of the mix. This can be condensed and adapted more perfectly than the very dry amalgam, and the excess mercury can be removed from it as it makes its appearance. Force should be applied first in the angles, then the condenser should be stepped so as to reach the margins last. Larger pieces of amalgam and larger instruments may then be used, and the force greatly increased as the size of the instruments and the density of the amalgam increase. Amalgam is treacherous, in that it readily gives the appearance, on the surface, of thorough condensation, and only careful examination will reveal the defects caused by a failure to thoroughly condense it. One of the advantages of condensing it to the density described is that this may compress the dentine walls; that is, it may spring them apart so that their elasticity will produce a continued force upon the amalgam, an effect similar to the advantage gained by the use of gold foil. This continued force exerted by the compressed walls will, to an extent, overcome the disadvantage of any minute volume changes occurring in the bulk of the restoration, and will produce a contact of the filling with the cavity walls which is proof against leakage.

The excess mercury, which will come to the surface as the result of the heavy force used in condensing, should be removed with suitable instruments and drier amalgam should be added. Finally, to fill the cavity, a large excess of amalgam should be added and a condensing instrument sufficiently large to cover all the occlusal margins simultaneously should be used with the hand mallet to drive the amalgam tight on all margins. The simultaneous pressure over all margins is necessary as on account of the semi-plastic nature of amalgam it would be impossible to make a wide area of margins tight by passing from one point to another. Naturally, pressure down at one point will produce pressure up at another point, and a leak will result. The large excess of amalgam used has the advantage of absorbing any excess of mercury from the cavity margins and gives strength at this point where strength is most essential. It also protects the margins from the blows of the condenser, and makes possible closer adaptation to the cavity walls and margins. Reduction of mercury to the minimum necessary for the cohesion of particles is the rational principle and gives maximum strength. In fact $33\frac{1}{3}$ per cent. more strength than methods which are indifferent to the amount of mercury remaining in the filling or the amount of pressure applied. It is presumed that most of us practice the filling of cervical cavities on distal surfaces, due to absorption of alveolus and recession of gums with contact with a prosthetic appliance. Condensation is at times very difficult owing to the pressure being applied over a limited area only. A window, slightly smaller than the outline of the cavity, cut in a matrix, and through which the material may be packed, is the best practice. Condensing pressure over the mass of material overfilling the cavity may be made by a back action plugger conformed to the contour of the tooth with a strip of linen or other material tightly drawn over the filling and heavily burnished.

Reverting to the compound filling: when crystallisation has progressed sufficiently the cavity margins may be burnished lightly and the excess material removed with suitable instruments, giving the filling as anatomical a character as the skill of the operator permits, by carving sulci and cusps.

Models should be before the eye for guidance until the operator can dispense with such aids. I now reach that portion of the subject that will probably provide the target of criticism. It cannot be said that, hitherto, as a general rule, examination of the occlusal periphery of our amalgam fillings, a very few years after their insertion, has given us much pleasure or satisfaction. If there is not recurrent caries there is commonly a ditch formed where formerly close margins existed inviting lodgment of fermentable carbohydrate material. Makers provide for a degree of expansion in the filling, yet we are perpetually discouraged by the appearance of these margins.

It may be that the expansion of the filling lifts the filling at the edges from contact with the ever so slightly bevelled enamel rods; that flow also is another displacing factor, that feather edges of amalgam overlying the enamel are frequent features, and that these unsupported edges of amalgam under the stress of mastication are broken with a crystalline fracture, resulting in a rough surface which subsequently holds the decalcifying agents. The suggestion is made that wisdom is to be found in the acknowledgment of the limitation of amalgam in edge strength and in the conversion of all occlusal acute angles of the filling material into right angles by running round the occlusal periphery with a small excavator or fine probe, and blunting the angle of amalgam. In practice it amounts to a sharp defining of the cavity margins. The filling being completed, at such time as is safe the matrix is removed by cutting the occlusal interstitial border of the band, which allows the band to be torn through and each portion removed lingually or buccally respectively.

Cervical and any other necessary trimming should be done at this stage, never assuming that the matrix has absolutely confined the material and that none has passed beyond it. The entire proximal surface, with the exception of the contact point, is then burnished with a rigid, flat or curved plastic instrument. At a later sitting, when the filling may be polished, the embrasures should be thoroughly explored and any excess material removed with the fine files designed for the purpose. The rubber ring passed over the crown and beneath the cervical margin will prevent laceration of the gum and hemorrhage, which is so discouraging to one's efforts. The buccal and lingual angles are polished with fine sandpaper discs, a hand-polishing wood point or the burlew discs. The cervical margin may be polished with a narrow strip passed beneath the contact point, and the contact point itself burnished with a thin strip of polished steel. Obviously the contour, which has been built up with such care, must be scrupulously preserved, the contact point being taboo as it is fatal to touch it with an abrasive. The enamel margins are to be finely polished with fine alpine abrasive points, and the junction of the filling and cavity margins polished with an orange-wood point and pumice or small sulci burlew discs in a right angle mandrel or merely burnished.

The Vicar of Wakefield, when his family were prematurely rejoicing in their good fortune and anticipating an alluring future, would say: "God grant we may think well of it six months hence."

I believe that by following the technique described we shall all find satisfaction in the contemplation of our mature work, subjected to the test of time which "trieth all things."—*British Dental Journal*.

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ORIGINAL COMMUNICATIONS

Copper Amalgam as a Root Filling Material

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Read Before the Canadian Dental Association, Aug., 1926.

The antiseptic properties of Copper Amalgam have been known and experimentally attested to again and again for many decades. Miller made experiments to determine the antiseptic properties, if any, of filling materials. He not only found that copper amalgam freshly prepared and old fillings had antiseptic properties but he also found what was fully more significant—that dentine from extracted teeth which had been filled with copper amalgam was not only sterile but had antiseptic properties also. *Marshall's text book of operative dentistry*. Simms repeated the experiments of Miller and found that copper amalgam and oxycchloride of zinc had definite antiseptic properties for some distance about them. *Science and practice of Dental Surgery, Bennett*. Black says: "This amalgam has so many good qualities that many abandon it with much regret. I think it is generally acknowledged that copper amalgam fillings retain good margins when they are once made perfect better or more perfectly than any other filling material. Within the limits of it's strength it is as rigid as hardened steel. It does not contract but exhibits very slight expansion on setting." Black believed its inhibition of caries was largely due to its perfect fitting of the cavity walls. *Hodgson metallurgy*. Kirk says: "its preservative qualities render it a valuable constituent in teeth of low grade structure." *Cosmos XXXVII. Page 737*. Dr. Foster Flagg says: "I regard copper as a most valuable constituent of any amalgam". *American System of Dentistry*. Weagent says that copper amalgam acts as a preservative of the dentine by permeating the tubules with an antiseptic solution. *American System of Dentistry*. Fraser repeated the experiments of Miller, Simms, Black Kirk and others and found that copper amalgam had antiseptic properties of a very permanent character, and further, that it retained its antiseptic properties after having been transferred into a fresh medium every two weeks for a period of five years. Because of this permanent antiseptic property and the fact that clinical experience over many years had shown that it had no irritating properties in contact with vital tissues it was suggested "That it might be used with decided advantage where discoloration of the tooth is not a factor, as a temporary filling, or in root canals, in cavities below the gum line and when it could be covered on the exposed surface by another filling material." *Dominion Dental Journal, January, 1925*.

Dr. Fitch in the *American System of Dentistry* published 1887 suggested the use of silver amalgam as a root canal filling in preference to gold foil or cotton wool which were in common use. He evidently wished to be cautious in the matter because he says "The writer does not wish to be understood as recommending it for this purpose but would suggest some points of comparison."

It is quite apparent from dental literature that filling root canals with either silver or copper amalgam never became a general practice because no

text book mentions it as a method to be followed. Copper amalgam was abandoned as a filling material chiefly because of its discoloration. As Black says, copper amalgam has many desirable properties which should not be lost sight of and if the technique suggested below is followed, what seemed to be its undesirable properties can be utilized to preserve and save many otherwise doomed teeth and prevent infected areas about the tooth root end.

Technique for Root Canal Filling

Prepare canal as for Coolidge Sectional Method. Reasonable enlargement of canal is necessary with choke bore or shoulder at apical end. This shoulder preparation, as has been pointed out in connection with the Coolidge method for gutta percha, enables the operator to more definitely place the first section of the filling. Reamers in the engine should be used with the greatest care, if at all. Hand reamers are much safer. Choose as large a root canal plugger as will pass to the end of the canal without binding. Dress off the end of this plugger with cuttlefish disk in the engine so that it is flat and at right angles to shaft of plugger.

Bend a shoulder on the plugger so that the shoulder will rest on a given or chosen edge of cavity margin when the point of the plugger is at the end of the canal.

A radiograph of the tooth with a diagnostic wire in place should first be made to exactly determine the length of the canal.

This your guide that the plugger is reaching to the end of the canal and no further.

Mix copper quite smooth by adding or expressing mercury as required. Mix must not be sloppy.

Carry a small piece to the mouth of the canal with pliers or amalgam carrier. Gently guide into the mouth of the canal with suitable plugger or small pledget of cotton in pliers—avoiding any suggestion of packing. Take plugger already selected with shoulder as above described, and holding the same with a very delicate hold between thumb and finger, pass it through the amalgam, and with one continued motion, right to the end of the canal, or until the shoulder engages the cavity margin at the point selected. Repeat this process several times carefully, till you observe from the shoulder on the plugger that you have built up the amalgam about 1 mm. at the apical end of the canal.

Gently tap a few times to adapt the amalgam and condense it. Repeat this process, building up 1mm at a time till the desired amount 3-5 mm has been inserted.

Remove surplus amalgam with barbed broach and fill the remainder of the canal with a combination of oxychloride cement and gutta percha as follows:—

Having chosen a suitable gutta percha point—as large a one as will pass freely into the canal—fill the rest of the canal full of a rather soft mix of oxychloride of zinc cement and press gutta percha point through it to the full depth. Wipe off surplus with hot ball burnisher, and with suitable plugger gently press warmed gutta percha into the cement.

This will bring to the surface globules of mercury which have escaped the barbed broach. These should be removed from the tooth.

In order to prevent discoloration of the crown or visible neck of the tooth, the roof filling should be removed to a safe depth (4 or 5 mm) root-wise of the gum margin with a bur in the engine, and the walls of this

portion of the canal made perfectly clean. Replace portion of root filling thus removed with oxychloride of zinc cement.

The placing of the gutta percha cone in a portion of the canal, as described, makes it possible to gain access to the canal for the insertion of a dowel—as in the construction of a crown—should that be necessary at a later date.

Radiographs should be taken immediately after the copper amalgam is inserted and before the cement and gutta percha are inserted to check up the work and to satisfy the operator that it has been placed where he wishes it to be. In the event that he has failed to get it to the end of the canal, it can easily be removed because it is very slow in setting—taking hours to harden.

Even after it is set, it is possible to remove it with a hot probe.

Copper amalgam can be successfully placed in any root canal where gutta percha can be placed and has a decided advantage over it because of its proven germicidal qualities of a permanent nature.

Should any be pressed beyond the apical opening, it will be found to be non-irritating, except in a mechanical way, on account of pressure. This is only temporary, however.

Copper-amalgam has been successfully used for a number of years as a root and capping following root resection, but it would seem a simpler and much more effective method to fill the apical portion from the coronal end, providing the canal could be opened.

On account of the germicidal influence extending some distance on all sides of copper amalgam, it would seem permissible to place the amalgam $\frac{1}{2}$ mm or so short of the apical opening rather than press it through. Such investigators as Clyde Davis of Nebraska have shown, chiefly in devitalization cases, that the peridental membrane closes over the apical opening and even deposits lime salts in the opening, thus effectively sealing it. Any operation, therefore, that would permit of this physiological repair, would seem to be acceptable.

The vulnerable portion of a root canal is at the apical end because of the difficulty of closing the foramen or foramina.

Crosswise of these, the junction of the dentine and cementum is, as it were, a fire wall impenetrable and forming a barrier to the ingress or egress of organisms. Therefore, at least one of three things, it would seem, must be accomplished in dealing with these foramina in order to make a root canal operation a success:—

1. Induce, if possible, physiological closure of these foramina. (Davis).
2. Mechanically obliterate (or fill) them.
3. Maintain asepsis of a permanent character in that area without causing irritation to the periapical tissues.

Briefly consider these in order:—

1. *Physiological repair.*

Copper amalgam placed close to the end of the canal, following careful preparation, will permit and not hinder this repair because of its germicidal and non-irritating properties.

2. *Mechanical obliteration.*

This is well nigh physically impossible, except in roots with a single foramen. A solution of resin and gutta percha in chloroform cannot be

relied on since the solvent becomes disseminated and leaves but a fraction of the original bulk in the spaces it was supposed to fill. Neither can precipitated silver or any other precipitated material mechanically obliterate. The deposit, at best, is a porous mass.

3. *Maintenance of asepsis.*

Since physiological repair is uncertain as is also mechanical obliteration, various medicated filling materials have been depended on. The main difficulty encountered with these is that they sooner or later lose their antiseptic properties and themselves become infected together with the surrounding tissues.

Not until Fraser's work in the University of Toronto on "A study of the Efficiency of Dental Fillings" was the fact demonstrated that of all filling materials, copper amalgam alone possessed permanent germicidal value.

This fact, together with the findings of Miller, quoted at the beginning of this paper, viz:—that dentin from extracted teeth which has been filled with copper amalgam was not only sterile but had antiseptic properties also, placed copper amalgam in a very favorable light as an ideal material to use in that vulnerable portion of the root canal—the apical end—provided it could be successfully inserted.

It is not only very adaptable physically and, what is important, impregnates the surrounding tissues with its benign antiseptic properties making the surrounding dentine thus impregnated, actively germicidal but above all it maintains this condition permanently. Nature, then, must be relied on to regenerate the periapical tissues.

Clinical results have amply verified this.

1. Teeth with large areas were kept under treatment as long as 18 months, or until the areas cleared up, then filled and have remained clear.

2. Teeth with large areas, some with sinuses, were given short treatment during time of canal preparation and cleared up *after* being filled with copper amalgam.

3. Teeth that had remained tender for months under bland medical treatment lost their tenderness in from a few hours to a few days after the insertion of a copper amalgam root filling.

4. Copper amalgam carefully placed over punctures in roots or in the floor of the pulp chamber gives satisfactory results.

Permit me, in closing, to emphasize the necessity for the most painstaking care in the preparation of the canal, in the insertion of the filling and in checking up your work, as it progresses, with the radiograph.



Address of Welcome to the Members of the Canadian Dental Association, Halifax, Aug. 1926

DR. W. C. OXNER, PRESIDENT N. S. DENTAL ASSOCIATION

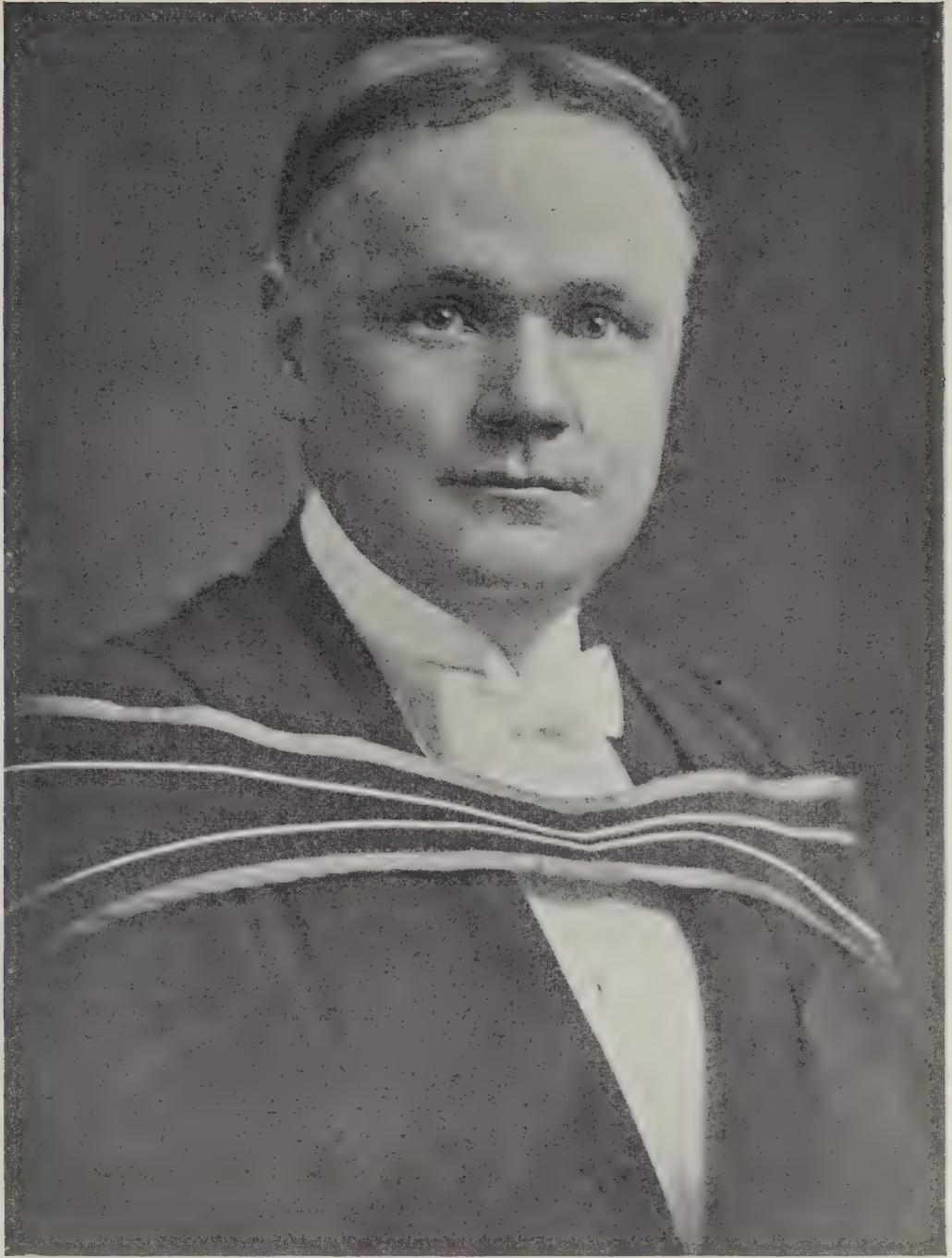
To the many gracious and sincere words of welcome to which you have listened, representative of Church, State, Province, City and University, I, on behalf of your fellow workers of the dental profession of the Maritime Provinces, desire to extend to you a most cordial welcome and greeting, carrying with it the hope that coming from this source, it may touch a specially responsive chord in your heart and find an echo in mutual good fellowship. Many of you have travelled long distances to get here. Let me assure you we are mindful and appreciative of this fact and also of your generous contributions toward the programme.

When our invitation to hold this Convention in Halifax was accepted, I will not deny the fact that some of us, for just a moment, had cold chills. Can we in this end of the Dominion, such a comparatively small number of us, put this Convention over? Yes. Knowing the generous nature of the profession as a whole and realizing also that we would have the hearty sympathy and co-operation, not only of our own Canadians, but also of our very good friends from the United States, we were glad to undertake the organization of this meeting, and now a glance at the programme containing names, many of them of international reputation proves conclusively how more than justified our faith in you has been.

A number of us in this audience hope shortly to attend the Seventh International Dental Congress. In comparing this meeting with over three hundred other conventions to be held in Philadelphia this year, many of which will be of international scope, some one has used these words. "The Seventh International Dental Congress is in the front rank of importance among these assemblages. Not only in the size of its attendance is it so, but in scientific significance and influence of human welfare the Dental Congress is among the most notable gatherings of 1926". There is a trite old saying "comparisons are odious" but may one not venture to hope that from the Canadian meeting, though much smaller in numbers, there may emanate some grains of truth and knowledge which may result in a benefit to humanity and be worthy of recording for future use.

Apropos of this thought, I wish to leave in your minds, a quotation by one of the most picturesque and outstanding figures this Province has ever known, the late Joseph Howe, who, at a family re-union held in Framingham, Mass., used these words, "A wise nation preserves its records, gathers up its monuments, decorates the tombs of its illustrious dead, repairs its great public structures and fosters national pride and love of country by perpetual reference to the sacrifices and glories of the past."

Ladies and Gentlemen, I trust you may carry back to your homes helpful and happy memories of your short stay in Halifax.



F. J. Conboy, D.D.S., Director of Dental Services, Provincial Board of Health, Toronto, Ont., and First Vice-President of the Canadian Dental Association.

Dental Services and National Advancement

DR. FRED J. CONBOY, DIRECTOR OF DENTAL SERVICES, ONTARIO

I do not intend to spend much of the time allotted to me in an endeavor to prove that Public Dental Health will materially assist national advancement. It is not necessary to stress that point before this audience. We all agree with the view expressed by Disraeli when he said that Public Health is the foundation upon which rests the happiness of the people and the

welfare of the state. An ancient philosopher expressed the opinion that the greatness of a city did not depend so much upon the size of its wall as upon the character of its citizens, and the future of Canada will to a large extent be determined by the physical, mental and moral health of its people.

The physical well-being of its citizens should therefore be numbered among the nation's greatest assets, and one of the chief tasks which confronts organized society is to protect the public health. In this endeavor the people must look to those who have made a special study of health problems for leadership and guidance, and as Dental diseases have a marked influence upon the general health, the Profession of Dentistry is being asked to make its contribution to the physical welfare of the people. It is in the hope of presenting a programme which will meet this demand that I have prepared this short paper.

The first and most important responsibility in regard to both public and personal health rests upon the individual citizen, and a public health service to be permanently efficient must be built upon this principle. The chief duty of the state is to make it possible for the individual to develop his endurance and protect himself against the enemies that would attack and destroy his physical well-being. The public must take advantage of these opportunities. Any public health system which encourages a man to underestimate his responsibility in regard to his own health and the well-being of those depending upon him is to that extent a menace to society. The Dominion, Provincial or Municipal Governments cannot destroy this sense of personal obligation without creating a state of mind which must ultimately result in disaster. Personal responsibility is the foundation upon which modern civilization is built. The community may create a most elaborate and expensive public health system, but if the individual citizens neglect or refuse to co-operate in connection with its activities, it will be of little use. The state may carry a boy through his school life in perfect health and then graduate him into society absolutely unfit to preserve and protect those physical powers which have been built up at considerable cost of time, energy and money. Has organized society then no obligation in regard to health matters? It certainly has.

It is quite evident that no man can reasonably be held responsible for any course of action unless he has a knowledge of the need and the means of accomplishment are placed within his reach. If the people do not realize that dental infection is a menace to health, if they do not know that dental diseases can be prevented, or if they cannot possibly obtain the needed treatment, they cannot be expected to protect themselves. Dental Health Education must be provided and dental services made available before governments and the profession of dentistry can with a clear conscience safely leave this matter in the keeping of the individual citizen.

The part which the profession of dentistry should accept in the protection of the dental health of all the people is a subject which has caused much discussion and given rise to considerable controversy. There are many who hold that the responsibility of the dentist ends when he renders a modern and efficient service to those who seek and are able to pay for his help. That he is under no greater obligation to help the indigent by supplying much needed dental treatment than the boot and shoe merchant is to supply footwear or the grocer to supply food. The comparison is rather unfortunate as the conditions are in many respects quite different.

In the first place the dentist is a professional man and must place service before reward, he cannot measure up to professional standards and neglect opportunities for service even though the ordinary fee is not forthcoming. The fact that the boot and shoe merchants or grocer do not supply needy folk with shoes or food, will not relieve him of his responsibility to relieve the sufferings of those who are dentally ill. In the second place the dentist operates under a license system. Only those who have complied with certain requirements can practise dentistry, and unless they perform the service, the people must go without this treatment so essential to health. At common law any one might practise medicine or dentistry. To adopt and follow any lawful pursuit not injurious to the community is the fundamental right and privilege of every citizen; all vocations are open to every one on like condition, and a good reason must be advanced before the state is justified in restricting the privilege of practising dentistry to those who have taken a certain course and passed a prescribed examination.

Ordinarily the law cannot interfere with the freedom of private contract. Why should the citizen not be permitted to engage whomsoever he pleases to treat him when he is sick or to relieve him of dental troubles when they assail him? The answer is, the public must protect itself against impostors, charlatans, and other incompetent people who would seek, for purely mercenary purposes to follow this line of work. From the standpoint of public health it is imperative that only those who are properly qualified should be allowed to perform dental operations. Dentistry is thus a calling which reasonably falls within the legislative right of regulation, and the state is justified in insisting that unqualified persons shall not be allowed to practise dentistry. Consequently arrangements are made so that certain groups of men are entrusted with the dental care of the people and the Provincial government gives to them certain rights and privileges and expects them to accept the responsibility for the efficient and thorough performance of the task assigned to them. The protection of dental health has thus been placed in the keeping of the profession of Dentistry.

Most health authorities will agree that dentistry is essential to physical well-being and should be placed within the reach of all classes of society. The adult and the child, the rich and the poor, the educated and the ignorant, all need the benefits which may be derived from a modern dental treatment. Society could provide for such a service by a system of state dentistry, but to do so would remove personal responsibility and promote paternalism, which is a condition to be avoided. Our legislators have therefore decided that, for the present at least, they will operate under a license system which gives to members of the Dental Profession his sole right to practise dentistry in the different provinces. Every privilege carries with it a corresponding responsibility. There must be two parts to every contract, and consequently dentistry must under reasonable conditions accept responsibility for the dental health of the people. A dentist or number of dentists in any community are in duty bound to take an interest in the public health and use every available means to educate the people in regard to oral hygiene and encourage them and lend assistance to every movement which under proper conditions will make dental treatment available to the people. The modern dentist is a public health worker and his influence must go beyond the confines of his regular practice.

The graduate in dentistry who takes no part in connection with Dental Health Education and does nothing to assist in providing treatment for those who cannot pay regular fees, is living far below his possibilities as a professional man. No government would be justified in allowing a system to continue which deprived a large proportion of the population of a service essential to health and happiness. And if at any time the members of the profession of dentistry take advantage of the license system in order to enrich themselves at the expense of the public, society will demand and will in all probability be given some form of state dentistry. Every citizen who is temperate, industrious and thrifty has a right to expect that he and those dependent upon him will be able to receive at a reasonable cost those things which are essential to their physical well-being. And it is the duty of the profession of dentistry to take a leading part in the advancement of any movement which will make this possible. The general public will gladly accept such leadership because they realise that the dentists are by special training qualified to advise. But we must show evidence of the fact that we are altruistic, public-spirited, and measure up to the standards of a true profession.

The profession of dentistry cannot, however, be expected to carry the full burden. It should lead the way, it should impress upon the different governments the necessity for action, and do everything possible to encourage them to do their duty in this regard. The men and women who conduct our public business are not in possession of the knowledge which we have and consequently they are not impressed with the importance of providing the services which we regard as so essential to the public welfare. They must be educated, they must be made to realize that the physical well-being of the people is the most important matter that they are called upon to consider, and that mouth conditions do to a large extent determine the general health. Organized society as represented by governments have a responsibility in this regard, and the extent of their obligation should be brought to their attention in a most convincing manner. *Now what should our representatives* in Parliament and Council be expected to do? The British North America Act places health legislation and administration under the control of the Provincial Governments, and any interference on the part of the Dominion Government would be considered as an invasion of provincial rights. Nevertheless the Dominion Government can without fear of criticism make provision for the dental care of immigrants and prepare and distribute dental health literature. It also has supervision over the dental services in the institutions under its control, but dental health work generally must be done under the direction of the provincial governments.

Each province has its own health act, and consequently while they all agree on certain principles, they differ in regard to the scope of the work to be undertaken. The fact that oral hygiene should be taught will be admitted by all provincial health authorities, but the question of the amount of support which should be given to encourage the establishment of public clinics will show great difference of opinion. Speaking generally, the work of a provincial dental department should be educational. It should impress upon the individual citizen the value of oral hygiene and dental treatment as a general health measure, and also demonstrate to municipalities the advantages of public dental clinics. It should take an interest in the dental health of the workers and encourage industries to make it easy for their

employees to protect themselves against harmful results of dental diseases. It is the duty of such a department to see that as far as possible dental services are made available in all parts of the province, and that all those who are under government care receive proper treatment. Municipalities, industries, hospitals, and the public generally can reasonably expect the department to supply dental health information and assistance in the organization of clinics and to take a live interest in every movement or activity which will improve the public dental health.

The burden of organizing and maintaining clinics rests upon the municipality. It is obviously impossible for the province to undertake this task, the government may give financial assistance by way of grants, but the actual management of these services should be undertaken by the Board of Education or Board of Health, and the funds raised by direct taxation in a manner similar to school or public health maintenance. The scope of the service to be supplied by public clinics is a matter upon which there is a difference of opinion, but the majority of those interested in the work agree that there should be as little interference with the resident dentists as possible. A service which provides treatment for those who cannot afford to pay regular fees is all the average municipality should be expected to maintain, and the remainder of the population will be better under the care of a family dentist.

In conclusion I would like to stress the importance of this and every other dental association, impressing upon its members the necessity of providing a full dental service for all members of the family. Our Canadian citizens, and especially the children, are suffering because many dentists refuse to treat deciduous teeth or to attempt even simple cases in orthodontia. The difficulty and even impossibility of securing services of this kind in a country well supplied with dentists is no credit to the profession. Public Dental Services or the efforts of specialists, efficient as they are, will not meet the need, the family dentist must be qualified and willing to practise his profession in all its branches, and the work done in clinics and by specialists must supplement rather than take the place of his efforts. Dentistry enjoys a great opportunity for useful service and the profession is making a praiseworthy effort to measure up to its privileges.



Dr. Guslav C. Tassman, Philadelphia, Addressed Academy of Dentistry, Hamilton, on Children's Teeth

Advised Sympathetic Approach

Dealing with the subject of approach to children, the doctor stated that he did not believe in ordering children peremptorily into the dental chair. The lady assistants in the dentists' offices could so handle the children that they would go willingly into the chair for treatment. The youngster must be brought to like the dentist at the start. If one was willing to forget dentistry for ten minutes or so and come down to "Johnny Jones'" status, rather than "Dr. Smith's", the child's confidence was to be obtained. Toys made an appeal to the kiddies, he advised. If people would follow the program of education of which he would speak and do missionary work with the parents, great advances in oral health would result.

Taught Toothbrush Drill

Every patient of his who called for treatment got a "tooth brush drill" to start. It was as important a step as any.

Dr. Tassman exhibited the toothbrushes that he had invented for adults and children. He gave these to his patients. It was part of his educational work in dentistry. He explained how the "toothbrush drill" was done. In his office was a dental hygienist who explained the proper manner to clean the teeth to the patient. The mouth and cheeks were also cleaned with the toothbrush, he illustrated. That afternoon he had taught this "toothbrush drill" at a meeting.

Girls Gave Drill

Dr. Manning, of this city, then entered the dining room with a squad of kiddies who had been taught the proper manner to brush their teeth at the Health Center yesterday afternoon. The children gave an exhibition. The children were from the girls' home. Mrs. Smith, matron of that institution, and the children were given a vote of thanks by the dentists for their co-operation. The little girls sang some songs for the entertainment of the meeting.

Such was the toothbrush drill, the speaker stated; but it did not end there as constant tab was kept on his patients to see that the manner of drill as explained was adhered to. There were many ways of brushing the teeth, but the ways which cleaned the teeth as illustrated were what counted.

Oral Health Neglected

If dentists thought that making bridges and fillings were the sole ends of dentistry, it was a mistake. Where the dental profession had fallen down in the past was through the neglect of oral hygiene. The medical doctors in the States, and perhaps here, had received no practical training in that subject. Surely they and the nurses in the hospitals should know about it. He believed that there were so many cases of septic fevers, because nothing much was done to tell the doctors the necessity of taking care of the oral cavity. It was the fault of the dentists. But now in the States oral hygiene was instituted in many hospitals. Nurses were taught the toothbrush drill. Patients were made to learn its use in the hospital and were

given prophylaxis. Dental charts were also kept. When this was generally understood by dentists and physicians alike then the dentists' Utopia would begin to materialize.

He stated that he had no use for the cup brush used on dentists' machines for cleaning children's teeth. The wheel brush was all right. He showed a special new design which he advocated for use on children's teeth, rather than the cup brush.

The doctor described his system of preparing teeth for treatment. He did not know how anyone could retire at night without using dental floss to rid the spaces between the teeth of decaying and germ breeding food particles.

In his clinic at Philadelphia proper mastication was taught. If patients were taught to eat a certain quantity of "roughage"—rough coarse foods—daily it would help preserve the teeth, and polish them. He had examined 500 skulls, some dating back 2,000 years, and found in what excellent condition most of the teeth in them were on account of eating rough foods.

Under the heading of "Operative Care" he gave many hints on treatment, the results of his own experience. He demonstrated filling materials and methods.

Clinic and Lecture

His clinic and lecture dealt with "simple and interapproximal cavities in deciduous teeth; inter-approximal cavities; compound cavities as affected by unexposed vital pulp; compound cavities and their treatment; and the treatment of pits and fissures and exposed pulp in "six year molars". This was followed by remarks on diet—with a description of the values of certain foods; and the best foods from a dental standpoint were enumerated.

In conclusion he spoke on diet in relation to good teeth, and on good nutrition, and entered into this subject from an analytical standpoint. He was accorded a hearty vote of thanks.

"Non-Palatal" (roofless) and Ordinary Denture Retention

CLINIC OF DR. F. W. BARBOUR, 22 COLLEGE STREET, TORONTO

This Clinic was to demonstrate the construction of a denture base upon which was conformed a flexible margin to improve adhesion.

This flexible margin is of carefully tested rubber, correctly shaped in steel moulds and under the treatment directed retains its flexibility during ordinary vulcanization and shows good resistant surface.

The requisite in this procedure is that the margin should be accurately placed with increased and equal pressure for the whole circumference.

Dr. Barbour's technique develops this by the application of specially designed wax patterns. One of these is adapted to the prepared impression, and one to the cast; these producing in the flaked case a reception groove which will locate the flexible rubber margin exactly.

The value of this method was strongly emphasized by the clinician especially to secure the much desired so-called "roofless" full upper, which was verified by numbers of practical cases mentioned.

DENTAL SOCIETIES

Health and Education

WILLIS A. SUTTON, SUPERINTENDENT OF EDUCATION, ATLANTA, GA.

Delivered Before the Montreal Dental Club.

Before concluding he declared that it was the responsibility of the schools and those responsible for their administration, "to keep the health of the children the paramount thing in life."

He strongly objected to the suspension or expulsion of children from school and said rather the slogan should be to keep the child in school.

He did not believe there was such a thing as a **naturally delinquent** boy. Careful inspection of such types invariably revealed that the boy was suffering from bad teeth, ulcers or some defect in his health which was arresting the development of his mentality and distorting his attitude to and conduct in life.

"When I became superintendent of schools in Atlanta," he said, "I was offered by one of our citizens the sum of \$3,600, which I might spend in any way I wished to. I said: 'I will spend that money trying what effect good teeth have on attendance of every kind of child.'

"I took 987 students. We put a dentist in that school and put every child's teeth in first class condition. I had made a careful study of the attendance in the previous year. We had 3,800 odd absences for the 987 children, about four absences to the child.

"I think in the next nine months we had the most awful epidemic of measles and mumps that had ever invaded our city. In spite of that fact, there was directly attributable to good teeth, a falling off of at least 1,100 absences from that group of 987 children.

"It cost me about \$3,000 to have that work done. I had come to realize that we had saved in the lives of those children possibly \$10,000 to \$15,000. The United States Government calculates that a day in school is worth from \$10 to \$45.

"Then I took the percentage of failures of these 987 children in the previous year, and the percentage of failures in the year following. The previous year it was 22 per cent. After their teeth were fixed it dropped to eight per cent."

Dr. Sutton extended the experiment. In another school of 15 rooms in Atlanta he had the teacher select the poorest student in each class. One who had almost no chance to pass his examinations. He sent these 15 children to various dentists in the city. At the end of the year only one of these children failed to pass in all subjects, and that child failed in only one subject.

He did not believe in the expenditure of too much money in the teaching of Latin in the schools if money was lacking for the establishment of a dental department to attend to the children. He declared he "would rather see the bloom of health on the cheeks of children than have them conjugate all the Latin verbs from Julius Caesar backwards or forwards."

"We have not put our finger on the centre of trouble in the field of

education," he continued, "but the nearer we get back to the cradle and not only start with the question of teeth, but start with the whole question of health, the nearer we are to bringing about a great race of people."

Dominion Dental Council Examinations

The following have passed their Dominion Dental Council examination on the following subjects:

Operative Dentistry—T. N. Belden, J. S. Bagnall, H. F. D. Wilkes.

Prosthetic Dentistry—T. N. Belden, H. F. D. Wilkes.

Anaesthetics—T. N. Belden, H. M. Corlett, H. F. D. Wilkes.

Materia Medica and Therapeutics—H. M. Corlett, H. M. Eaton, C. A. Findlar, A. B. Haverstock, S. G. Israel, H. F. Moffatt, D. A. R. McDougall, H. F. D. Wilkes.

Medicine and Surgery—T. N. Belden, J. S. Bagnall, H. F. D. Wilkes.

Pathology and Bacteriology—T. N. Belden, S. M. Colbeck, H. M. Eaton, A. B. Haverstock, S. G. Israel, H. F. D. Wilkes.

Jurisprudence and Ethics—T. N. Belden, H. F. D. Wilkes.

Anatomy—J. H. Dougall, W. H. Godsoe, W. P. Gruer, W. J. S. Jackson, J. I. Lesik, A. W. Phin, C. A. Porter, J. A. Tupper, L. A. Washington, H. F. D. Wilkes.

Physiology and Histology—W. H. Godsoe, J. A. Tupper, L. A. Washington, H. F. D. Wilkes.

Physiology (only)—C. A. Findlar, W. H. Godsoe, D. A. R. McDougall, J. A. Tupper, L. A. Washington, H. F. D. Wilkes.

Histology (only)—F. A. Fraser, W. P. Gruer, W. J. S. Jackson, A. A. Somerville.

Physics and Chemistry and Metallurgy—O. J. Davies, C. A. Findlar, H. M. Corlett, J. I. Lesik, H. F. Moffatt, D. A. R. McDougall, H. F. D. Wilkes.

Dr. McCall at the Montreal Clinic

TWO-FOLD ASPECT OF TASK

Dr. McCall followed the same line of thought at the outset of his address. Too often, he said, the dentist paid too much attention to the mechanical side of his work. It was true that the art of dentistry took for granted a certain mechanical dexterity on the part of the operator, and while many might be successful in this branch of the work, a knowledge of this alone would not make the successful dentist. The pathological and physiological aspects of the work must be considered first and foremost; proper diagnosis must be made of the ills of the patient, and any repair work which might later be executed must be done in the light of the diagnosis.

To illustrate how complete a diagnosis of the mouth could be made, Dr. McCall showed slides of X-ray photographs made of the teeth. Every little defect of the bone under structure was shown clearly in the photographs, as well as the tissue surrounding the teeth. By analyzing the X-ray plates, he said, the dentist could tell beyond doubt just what were the patient's needs, and any subsequent mechanical work could be executed in the light of this knowledge.

Dear Doctor.—

November 26, 1926.

The Third Stated Meeting of the Academy will be held at the Faculty of Dentistry Building, 240 College Street, on Monday, December 6th, at 8 p. m. sharp.

Clinics will be presented on the design and construction of bridgework by Dr. I. H. Ante and Dr. O. F. Clappison.

This programme will be intensely interesting and practical. Make a note of the date on your appointment book NOW and don't miss this meeting.

The following study groups are now formed and will meet as indicated. If you wish to attend one or more, communicate with the Group Secretary at once.

Group, Exodontia and Anesthesia; instructor, Dr. W. D. Amy; chairman, Dr. J. O. Wilkinson; secretary, Dr. Breslin, Trinity 6074.

Place and time of meeting—240 College Street, Tuesday, 8 p. m.

Gas Anesthesia—Dr. Gordon Frawley, instructor; secretary, Dr. H. A. Ross, Hill. 4133.

Place and time of meeting—Club Room, 86 Bloor W., Tuesday, 8 p. m.

Full Denture—Dr. F. L. Cole, instructor; Dr. H. Skilling, chairman; Dr. J. C. Fullerton, secretary.

Time and place of meeting—Club Room, 86 Bloor St. W., Thursday, December 2, 8 p. m.

Orthodontia—Dr. Geo. Grieve, instructor; Dr. McMulkin, RA. 8938, Temporary Secretary.

Place and time of meeting—Dr. Grieve's Office, 2 Bloor Street East, Thursday, 8 p. m.

Children's Dentistry—For time and place call Dr. M. Law, Hud. 0477F.

S. STUART CROUCH, Secretary,
Academy of Dentistry.

New Trial for Dr. Powers in Damage Suit

Verdict of \$2,000 for Alleged Negligence Upset on Appeal

A new trial was ordered this morning by the Court of Appeal in the case against Dr. C. A. Powers, Brandon dentist, against whom a verdict for \$2,000 was given last March for alleged negligence in extracting a tooth.

The case was instituted in Brandon on behalf of Bernice McTaggart, six-year-old child, the pleadings setting up that Dr. Powers in extracting teeth from the child had negligently permitted one to lodge in her lung.

At the trial hearing before Mr. Justice Galt in Brandon, which lasted three days, the case attracted a great deal of attention. The jury gave \$2,000 damages, one-half for the child and one-half for the father, who was a party plaintiff in the action.

Chief Justice Perdue, whose written reasons for judgment were read by Mr. Justice Fullerton, and the latter himself favored allowing the appeal outright with costs. The other three judges of the court found for a new trial which was accordingly ordered. The costs of the appeal and of the former trial are to abide the result of the new litigation.

R. K. Williams, K. C., appeared for the appellant, Dr. Powers, and C. H. Locke, K. C., for the respondent.

Report of the President of the Dominion Dental Council

Halifax, August 17, 1926.

Mr. President and
Members of the Canadian Dental Association.
Gentlemen:

The Dominion Dental Council in submitting its report to the Canadian Dental Association, has pleasure in advising you that our Council has placed itself on record as being in favor of incorporation, and with that end in view we feel that as there is a lack of knowledge on the part of a large membership in the Profession, regarding the aims and activities of the Council, that a program of Propaganda must be instituted, and in order that the best results may be obtained we desire that your body shall nominate a committee of three?—of your members to act with a committee of the Dominion Dental Council to spread the gospel of the Dominion Dental Council among the members of the Profession through the Dominion, more especially among the members in Quebec and British Columbia who are at the present time not as well informed as they otherwise doubtless would be by reason of the fact that these two provinces are not at the present time represented on our Council.

We trust that you will select three earnest sympathetic members who will convey our message of good will and friendliness. The wording of our resolution is as follows:—

“Moved by Dr. John W. Clay, seconded by Dr. J. M. Magee

That a committee from this Council be appointed, which is hereby empowered,—

(a) To negotiate with representatives from the provinces of Quebec and British Columbia, with a view to considering the possibility of their being represented on the D. D. C. and if found favorable to carry on negotiations leading to that end.

(b) To draw up a plan of Federal incorporation with provisions similar to those embodied in the ‘Medical Professions Act’.

(c) To carry on a campaign of education as to the value of the Dominion Dental Council in Canada.

(d) To prepare a recommendation of a course of action for presentation to the D.D.C.

(e) To expend such monies as may be necessary for the above objects subject to the consent from time to time of the Executive of the D.D.C.”

Incorporation, we feel, is one step toward the goal of unification of the laws of our various provinces with the ultimate object of securing Federal legislation creating a licensing body whose certificate will be valid for registration in any part of the Dominion of Canada.

We intend to furnish in both English and French, a synopsis of all our proceedings so that every one will be informed.

We have slightly re-arranged our examination programme, strengthening where it was required to keep our standards slightly in advance of any individual provincial standard, and especially, we have stiffened the practical portion.

One item, that will be of decided value to the secretaries of the various provinces who up to the present time have been troubled by holders of

the Dominion Dental Council Certificate who, through ignorance of its actual value and purport, have entered upon practice without the Secretary's knowledge, is the following statement which in future the holders of our Certificate will be required to sign prior to receiving said certificate. "I hereby promise that before opening a dental office and beginning practice in any province by virtue of my Dominion Dental Council Certificate, I will register said Certificate with the Registrar of the Dental Board of the province in which I am opening an office. I understand that disregard of this provision renders me liable to prosecution for illegal practice".

During the year just past, the Council has donated six hundred dollars for Research work, dividing it equally between Dalhousie University and the R. C. D. S. at Toronto. Should the funds permit additional amounts will be donated, the Council having decided that they should support Research as much as possible.

Nova Scotia has during the past few months, requested that the D. D. C. allow their Examining Board to act as Examiners for Nova Scotia. The Council has agreed to do this.

There are many evidences that the D. D. C. has been able to exert a marked influence in quarters where that influence was needed in lessening unethical practice and in improving provincial standards. A much more harmonious standard now exists than did exist prior to the establishment of the D. D. C. This work it is proposed to continue.

Submitted for your consideration,

W. M. McGuire, President,
Dominion Dental Council of Canada.

Canadian Dental Research Foundation Report

The work of the Canadian Dental Research Foundation during the last two years has been more or less curtailed by lack of funds due to the heavy expenses previously incurred in publishing bulletins and such liabilities standing as debit balance as shown in the Financial Statement presented to this Association at its 1924 meeting.

However, considerable has been done in the way of distributing bulletins. Over three thousand copies of bulletins number eight "Articulation for Partial Dentures with the Snow Apparatus and Wadsworth Incisor Guide" have been distributed free to the Dentists of Canada. The work of the Foundation in publishing the Bulletins by Dr. Box, has received wonderful recognition from other countries. Requests for copies have come from all parts of the world. Hundreds of Dentists in the United States have written for copies, and over thirty Dental Colleges there are using the Bulletins in teaching the subject of Periodontia, in some cases, securing sufficient copies to supply their students. One hundred bulletins have been sent to Australia, about half this number to England, and copies to South Africa, China, Austria, Germany and Czecho-Slovakia. There have also been a number of requests from publishing houses in England and America for permission to reproduce some of Dr. Box's cuts to illustrate text books on Periodontia.

All these bulletins to foreign countries were supplied at a small charge to cover cost of printing and mailing, and many times the recipient would add a small contribution as an expression of appreciation. It is interest-

ing to note that three of the subscriptions to the Trust Account during this period have come from outside Canada. Dr. E. Stanley Wallace and L. R. Scholes, of Sydney, Australia, each contributed five pounds, and one from the American Academy of Periodontology for \$150.00 which was voted by that Association as an expression of their appreciation of the Research work performed by Dr. H. K. Box, and published by the Foundation.

We are pleased to report that the heavy financial obligations incurred two years ago have all been discharged, and the Foundation is now in a position to undertake new work. The executive have been offered a new Bulletin by Dr. Box on Trench Mouth, and another on an interesting phase of Operative Dentistry is being considered. In future, when bulletins are available, your committee recommends that return post cards be used to notify the Profession in Canada, and copies of bulletins be sent on request. This will prevent waste, and loss in sending bulletins where they might not be appreciated.

We believe that the time is now opportune for a further appeal to Canadian Dentists to support this worthy work, and we would therefore respectfully ask this Association to authorize and endorse such an appeal for contributions. In doing so, we are not unmindful of the past generosity of the Profession. In addition to the numerous subscriptions from individual dentists, the following contributions would indicate that the different dental organizations throughout the country have given their approval to the Foundation:—

Canadian Dental Association	\$ 200.00
British Columbia College of Dental Surgeons	100.00
British Columbia Dental Association.....	100.00
Alberta Dental Association	200.00
Calgary Dental Society	50.00
Manitoba Dental Association	200.00
Ontario Dental Association	1850.00
Royal College of Dental Surgeons of Ontario (Board)	2000.00
Thunder Bay Dental Association	100.00
College of Dental Surgeons, Quebec	500.00
Study Circle, Montreal	25.00
Nova Scotia Dental Association	150.00
Halifax Dental Society	50.00

However, it is impossible to carry on an extensive program in Dental Research with our present income, and an endeavor must be made to build up the trust fund. It is the privilege of any Province to assume the responsibilities of the work for the next two years, and the Foundation Directors will be glad to receive such requests at this meeting. If none are forthcoming, the work will be carried on as before if the Directors so wish.

Respectfully submitted,

R. G. McLean, President.

CANADIAN DENTAL RESEARCH FOUNDATION FINANCIAL STATEMENT

Period May 25th, 1924 to June 30th, 1926

Canadian Dental Research Foundation,

August 3rd, 1926.

86 Bloor Street, West, Toronto, Ontario.

We have completed our audit of the books and accounts of the Canadian Dental Research Foundation for the period from May 25th, 1924 to

June 30th, 1926, and submit herewith our report, together with the following statements and schedules:

Statements of Assets and Liabilities	Page 2.
Statement of Receipts and Disbursements, Trust Account	Page 2.
Statement of Receipts and Disbursements, Current Account	Page 4.
Detailed list of Subscriptions	Page 5.

All our requirements, as auditors, have been complied with and we certify that, in our opinion, the accompanying Statement of Assets and Liabilities correctly sets forth the state of affairs of the Foundation, as shown by the records, as of June 30th, 1926.

Respectfully submitted,

(signed) Thorne, Mulholland, Howson, & McPherson.
Chartered Accountants, Auditors

STATEMENT OF ASSETS AND LIABILITIES (June 30th, 1926)

<i>Current Account:</i>		<i>Assets</i>	
Cash in Bank	\$	141.00	
Ontario Press Limited.....		58.62	
Accrued Interest on Investments		208.53	
Accrued Interest on Uninvested Funds....		4.24	412.39
<i>Trust Fund:</i>			
Cash in Trust Company		453.24	
Unpaid subscriptions		1570.00	
Investments at cost (Par value \$13,350) ..		13366.10	15389.34
			<u>15801.73</u>
<i>Current Account:</i>		<i>Liabilities</i>	
Accrued Expenses		65.10	
Surplus		347.29	412.39
<i>Trust Account:</i>			
Surplus			15389.34
			<u>15801.73</u>

STATEMENT OF RECEIPTS AND DISBURSEMENTS TRUST ACCOUNT (From May 25th to June 30th, 1926)

<i>Receipts</i>		
Balance May 25th, 1924	\$	217.00
Subscriptions		1213.59
Interest on Investments		1478.61
Interest on Trust Funds: <i>Less</i> Bank charges		17.30
Adjustment from Current Account		21.00
		<u>\$2947.90</u>
<i>Disbursements</i>		
Investments:	Par value	
City of Toronto 5 per cent., 1941	1000.00	998.75
Interest remitted to Secretary-Treasurer, <i>Less</i> Bank Charges		1495.91
		<u>2494.66</u>
Cash in Trust Company, June 30th, 1926		453.24
		<u>\$ 2947.90</u>

STATEMENT OF RECEIPTS AND DISBURSEMENTS CURRENT ACCOUNT

(From May 25th, 1924 to June 30th, 1926)

Receipts

Cash in Bank, May 25th, 1924	\$ 382.30
Grant from Board of Directors, R. C. D. S.	500.00
Grant from Board of Directors, O. D. A.	500.00
Contributions from Bulletins and Pamphlets	678.99
Interest on Investments held by Trust Company	1478.61
Interest on Trust Funds, <i>Less</i> Bank Charges.....	17.30
Bank Loans	565.00
	4122.20

Disbursements

Stationery, Bulletins, Pamphlets and Postage	\$ 3268.47
National Trust Co. Limited Charges	32.41
Bank Loans Repaid	565.00
Auditing Accounts, 1923-24.....	25.00
Salary, Stenographer	60.00
Interest and Exchange	26.32
General Expense	4.00
	\$ 3981.20
Cash in Bank, June 30th, 1926	141.00
	\$ 4122.20

DETAILED LIST OF SUBSCRIPTIONS

(From May 25th, 1924 to June 30th, 1926)

American Academy of Periodontology	\$ 150.00
Essenberg, Dr. M. J.	10.05
Ontario Dental Association	1000.00
Scholes, Dr., £5	24.27
Thompson, Dr. F. L.	5.00
Wallace, Dr. E. S., £5	24.27
Total subscriptions for this period	1213.59
Total subscriptions to May 24th, 1924	14194.51
Total subscriptions to date	15408.10
<i>Less</i> Unpaid subscriptions	1570.00
Subscriptions received	\$13838.10

Canadian Dental Association Invited

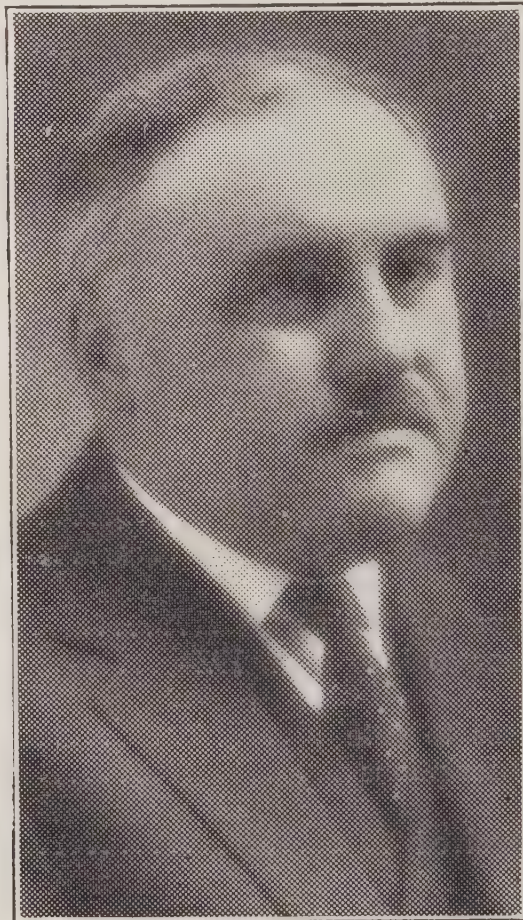
The Ontario Dental Association has invited the Canadian Dental Association to meet with them in Toronto, May 16th, etc., 1927. This is the first of annual meetings of the Canadian Dental Association.

Founding of a Dental Club at Montreal

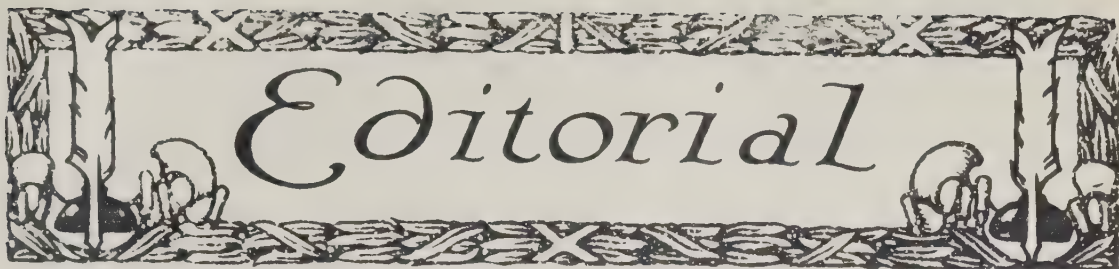
The dentists of the north of the city of Montreal assembled Friday, November 5th, and decided to form a dental club for scientific and professional purposes. It will be eligible to all French speaking dentists in Quebec province. It further purposes to instruct the public as to the importance of the care of the teeth to the general health.

Provisionally elected—President, Dr. A. Brosseau; vice-president, Dr. M. Fleury; secretary, Dr. A. L. LaRose; treasurer, Dr. A. Chevrier.

Next meeting will be November 15th at 9 p.m. at 6558 Rue St. Denis.



Dr. H. A. Clark, Brockville, Ont., Re-elected to the Provincial Legislature, December 1st, 1926.



Editorial

EDITOR:

A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.

ASSOCIATE EDITORS:

QUEBEC—Eudore Debeau, L.D.S., D.D.S., Montreal; A. W. Thornton, D.D.S., L.D.S., Montreal.

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ONTARIO—S. Stewart Crouch, D.D.S., Toronto.

Vol. XXXVIII

TORONTO, DECEMBER, 1926

No. 12

A National Board of Dental Examiners

It is interesting to notice that our American confreres are again discussing the problem of a national Board of Dental examiners. The proposed plan of establishment or appointment is the Surgeons General of the Army, Navy and Public Health service; five members from the National Association of Dental Examiners; five from the American Association of Dental Schools, and five from the American Dental Association, three of whom must be examiners or ex-examiners. Thus there are eighteen members, eight of whom will be examiners, the only part of the board which has any official authoritative power. It is an interesting innovation to see examining boards give up their prerogatives. Not all State Boards have the power to accept another body's examination, so legislative authority must be sought. What will the legislators say of the surrender?

One of the stumbling blocks is said to be the difficulty of financing the Board. This will be easy if the Carnegie Foundation will undertake it, but even if they do not, the scheme can be easily financed by the fees of the candidates. Who would not gladly give fifty or even a hundred dollars for a certificate which if presented to any State Board would insure registra-

tion. Leave such an opportunity open for a year or two to all those now holding valid licenses in any of the agreeing States and the Board would be able to endow a University or a research institute with the proceeds. The fees of the annual student candidates would more than maintain such a Board. No, the finances are not the difficulty.

The Cosmos in an editorial argues itself off its feet in its promotion of the project. In one paragraph it says that: "No one can foresee when a combination of circumstances may make it desirable, even necessary for him to change his location and be compelled to endure the additional hardship of having to 'brush up' on the elemental subjects" — "which is most discouraging." As if to lay on some salve, it goes on to say that in most States even now only a practical examination is required of practitioners. In other words, a low standard or a partial examination might well be accepted from some candidates, while another paragraph says: "Its examinations should be of such unquestionable thoroughness as to make it worthy of recognition by all State licensing boards." It is quite essential, however, that the qualifications required of those who are going to take the examination should be as high as the highest required by any State Board. All this implies two standards of qualification, which is a far more difficult problem than the finances.

The real stumbling blocks will be the standards of admission of present holders of State licenses, and those now in College, and those yet to come. The last group have no rights, but the first two have; besides having the right to oppose the scheme. Just as soon as the Board sets up its standards it will have opponents never before dreamed of. A voluntary or self-appointed Board such as the one proposed will work for a while, but sooner or later it must have federal or national recognition.

Canada has had twenty-two years' experience with a National Board of Dental Examiners, or as it is called the Dominion Dental Council; as well as a Dominion Medical Council. The success of these organizations encourage us to believe that notwithstanding many difficulties they are a great boon to the members of the profession and to the nation.

ORAL SEPSIS AND SURGERY AND ANAESTHETICS

There are two main reasons why physicians, surgeons and anaesthetists desire to have patients who are to undergo an operation under general anaesthesia to have as clean a mouth as possible. First is the danger of pneumonia from inspiring infection from a dirty mouth especially under ether anaesthesia. Second, the danger of secondary infection from the infected mouth directly or indirectly. There might be even a third reason, which is the possibility of the hindrance to recovery by bacterial poisoning.

It is now common practise for patients to be sent to a dentist to have their mouths cleaned up and put in as healthy a state as possible before an operation involving general anaesthetic. This is all very well, and all that is necessary provided it is a simple case of gingivitis or oral sepsis, but if it should involve the removal of several abscessed or otherwise diseased teeth and roots there must be sufficient time elapse between the removal of such teeth and the surgical operation to allow the infection to be removed by Nature's processes. The simple removal of an abscessed tooth does not insure the removal of all or even the major part of the infection. When the surgeon or anaesthetist sends his patient to a dentist on Monday to have

his mouth set in order so that the contemplated operation may be performed. on Tuesday or Wednesday he should realize that Nature has not had time to do her part in clearing the mouth of infection. It is very doubtful practise to open up deep seats of infection as occurs in the extraction of abscessed teeth only a few days previous to the administration of general anaesthetics.

Notes

Thought without action is a disease.

Friends should have all things in common.

Metaphysics is the art of befuddling one's self methodically.

We must not avoid pleasures, but we must select them.—*Bacon*.

It is difficult to be either master or slave if one is sensitive.—*Bacon*.

Huxley said that Spencer's idea of a tragedy was a theory killed by a fact.

Bacon condemned no man's observations but lit his torch at every man's candle.

How should a man avoid pessimism who has lived all his life in boarding-houses?

Voltaire once said: "God preserve me from my friends, I'll take care of my enemies myself."

The place to get your vitamins is in the market and the grocery store and not the drug store.

Mildred W. Dickerson, D.D.S., announces the removal of her offices to Suite 102-1624 I Street, Washington, D. C.

Dr. Stanley Burns, a graduate of the R.C.D.S., a practitioner in Montreal for many years, died November 13, 1926.

Dr. Fred R. Mallory, formerly of Toronto, has changed his address in London from 30 A Wimpole St. to 90 Harley St., W.1, London.

"To spend too much time in studies is sloth; to use them too much for ornament is affectation; to make judgment wholly by their rules is the humor of a scholar."—*Bacon*.

Of theory and practise Bacon said: One without the other is useless and perilous; knowledge that does not generate achievement is a pale and bloodless thing unworthy of mankind.

Discovery of a new monilia by Dr. Frederick W. Shaw, associate professor of bacteriology, school of dentistry, Medical College of Virginia, was reported in a recent number of *SCIENCE*.

Dr. E. C. L. Miller represented the school of dentistry, Medical College of Virginia, at the formal opening of the University of Rochester, school of medicine and dentistry, on October 25-26.

It must be rather nauseating to a highly intelligent and ethical dentist to have his name bandied about in the local press where he may have given

an address; as the most noted dentist in this or that country, or the one making the largest income in several counties or States, etc.

Dr. Milton N. Thompson, a 1923 graduate of the University of Minnesota, has joined the staff of the Medical College of Virginia, school of dentistry. Doctor Thompson will give full-time service teaching in the technic laboratories and on the infirmary floor.

Forty students matriculated in the freshman class, school of dentistry, Medical College of Virginia, this session. This is the largest freshman registration since the college in 1921 adopted the predental collegiate year as a requirement for admission. Four members of the 1926 entering class hold baccalaureate degrees.

Theoretically the ideal form of government would be the centralization of all political power in the one best man. Bad is the lordship of many: Let one be your ruler and master (*Homer*). For men of eminent ability there is no law; they are themselves the law. As the fable has it: The lions said to the hares when in the council of beasts the latter began haranguing and claiming equality for all—where are your claws?

Honorable Rosewell Page, second auditor of Virginia and brother of the late Thomas Nelson Page, was the principal speaker at founder's day, Medical College of Virginia, December 1, 1926. This program was built around the history of academy square in Richmond where the French academy of arts and sciences began so auspiciously in 1786 as the first graduate school in America but failed soon thereafter on account of the French revolution and where in 1844 the Medical College of Virginia occupied its first permanent building which is modeled after an Egyptian temple. It was in the same square also that the constitution of the United States was adopted by Virginia.

The "Belleville Intelligencer," when asked by the Ontario Board of Health to publish a bulletin dealing with the dental health day put on in October made some very caustic observations. In the main, to them it looked rather small and mean for the dentists to get the government to drum up business for them without paying for it. The whole thing was an advertising scheme under the guise of public health which they didn't want to pay for. They get round the professional dignity objection by slipping it under the newspaper's back door (so to speak). What the individual may not do, the whole group got together and did. There was nobody to object because they all benefitted.

Some time in 1925 Dr. Harold Landing left his practice in Edmonton to reside permanently in Seattle. Though enjoying a good practice in the U. S. A. Dr. Landing couldn't quite adjust himself to his new surroundings, the thought of the good moose hunting and the wild bird life in Western Canada he had been so interested in were too much for him, and last week saw him back in Alberta for good. While away the Doctor spent his time to good advantage and familiarized himself with all the latest methods in dentistry as well. He brought back with him the new plate material formerly called Itco which looks good. This will now be available to any who wish to use it, for Dr. Landing is establishing laboratories here and in Calgary. 'Tis a pity thousands more good fellows couldn't be bitten by the same Western bug.

Give Impacted Cuspids a Chance

Aylmer, Ont., Nov. 29, 1926.

Dr. A. E. Webster, Toronto, Ontario.

Dear Doctor.—Enclosed please find X-ray of the upper cuspids. The left lateral incisor has been erupted for about three months or more, but is poorly formed and bites lingually. There is no signs of a left lateral. The patient is a girl of 13.

Do you think, Dr. Webster, that the cuspids would erupt if the temporary cuspids were removed and the malformed lateral? The temporary cuspids are well preserved and she and her mother seem loath to loose these if there is doubt of the permanent cuspids erupting in position.

Yours sincerely, J. B. CLARK.



Answer—Dear Doctor.—Judging from the X-ray pictures and what you say of the case, it would be in the best interests of the patient to remove the temporary cuspids and the deformed lateral incisor. The temporary teeth will not likely remain very long as absorption has now begun. The disturbance caused by the removal of the teeth may stimulate the eruption of the suppressed cuspids. Teeth if given an opportunity are more likely to erupt during the normal eruptive period than at a later date.

Yours sincerely, A. E. WEBSTER.

FOR SALE—A dental practice in a small Western Ontario town. Established in 1924 in a good and growing agricultural district. New equipment at that time. No opposition, low rental and reasonable price. Reason for selling, going to U.S. Apply Box 42, Dominion Dental Journal, 73 Richmond W., Toronto.

DENTAL PRACTICE FOR SALE in Woodstock, Ontario. Retiring from business. Office equipment and Practice in first class condition. Apply to A. M. Clark, 10 Perry Street, Woodstock, Ont.

SPECIAL THIS MONTH—New Burs H. P. No. 7—ROUND—INV. CONE—WHEEL—Size 3/0, 20c per dozen. Highest prices paid for scraps, etc. WE RECUT your used burs extra sharp at 25c per dozen. Sheun Co., 602 Oakwood Blvd., Chicago, Ill. Established 1906.

DENTAL PRACTICE FOR SALE—City of Hamilton, suburban. Box 41, Dominion Dental Journal, 73 Richmond W., Toronto 2.

Transillumination

November 2, 1926.

The Editor,
Dominion Dental Journal,
73 Richmond St. W.
Toronto, 2, Ontario.

Dear Sir:

Having been a user of Transillumination with Cameron's Dental Lamp for a number of years, it is with much surprise that I read Dr. Husband's article condemning this method of diagnosis in a recent number of your Journal.

Practically every dentist and medical practitioner with whom I come in personal contact is now using Transillumination with most satisfying results. I am sure that by further investigation Dr. Husband will arrive at the same satisfactory conclusion.

With specific consideration of each case mentioned by Dr. Husband, it is easily possible to state a few general rules that will make Transillumination with Cameron's Right-Angle Dentalamp a demonstrable success:

At my clinic in exodontia, I have found it necessary in instructing in diagnosis to emphasize the following points in Transillumination: Always transilluminate in a dark room and examine the entire alveolar process from both the buccal and lingual surfaces, noting the presence of shadows in the gum tissue as well as pronounced discolorations of the crowns of the teeth. I find this latter quite necessary, for it frequently causes me to more carefully examine an area and in this way sometimes I occasionally find shadows that I might otherwise have overlooked.

Wherever shadows are present they are not due to any root canal filling or treatment, but are always due to a change in the blood content, and are to be found only where there is an accumulation of oxycarbohemoglobin gas. Wherever there is or has been a sinus or opening from an infected area, it may or may not show a shadow, depending upon how completely the area has drained.

Without a doubt there is a reason why there is a shadow at every blind abscess and probably it would be just as satisfying to accept the verdict of noted investigators in this field, who claim that it is due to de-oxidation of the blood content. After having learned to properly use Transillumination, continued experience must invariably lead to the conviction that here we have one of the three or four noteworthy aids in dental diagnosis.

This method should not be condemned for what it will not do, but should be appraised for what it does do. In the hands of the careful operator, it will according to my estimate, reveal every blind abscess in every patient's mouth. It has done so for me for a number of years and I have no reason to suspect it will now fail me merely because of the verdict rendered by Dr. Husband.

Very truly yours,

Chas. H. Dodge.

Lockhead Laboratories, Inc., 115 West 45th St., New York, have opened a branch office at 127 Stanley St., Montreal.

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returned to the Dental
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